

United Republic of Tanzania

NATIONAL SAMPLE CENSUS OF AGRICULTURE
2002/2003

Volume Vj: REGIONAL REPORT: **RUVUMA REGION**



Cattle Rearing



Fish Harvesting



Eggs Production



Maize Planting



Paddy Growing



Hand Cultivation



Indigenous Chicken



Irrigation Practice



Orange Marketing



Cassava Planting



Goat Rearing



United Republic of Tanzania



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OF AGRICULTURE
2002/2003**

VOLUME V_k: REGIONAL REPORT: RUVUMA REGION

*National Bureau of Statistics, Ministry of agriculture and Food Security,
Ministry of Water and Livestock Development, Ministry of Cooperatives and Marketing,
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ACRONYMS

<i>ASDP</i>	<i>Agricultural Sector Development Project</i>
<i>CSPro</i>	<i>Census and Survey Processing Program</i>
<i>DFID</i>	<i>Department For International Development</i>
<i>DIAS</i>	<i>District Integrated Agricultural Survey</i>
<i>DS</i>	<i>District Supervisor</i>
<i>EAS</i>	<i>Expanded Agricultural Survey</i>
<i>EAs</i>	<i>Enumeration Areas</i>
<i>EU</i>	<i>European Union</i>
<i>FE</i>	<i>Field Enumerator</i>
<i>GDP</i>	<i>Gross Domestic Product</i>
<i>Ha</i>	<i>Hectares</i>
<i>IAS</i>	<i>Integrated Agricultural Survey</i>
<i>ICR</i>	<i>Intelligent Character Recognition</i>
<i>IEC</i>	<i>Information, Education and Communication</i>
<i>JICA</i>	<i>Japanese International Cooperation Agency</i>
<i>LRS</i>	<i>Long Rainy Season,</i>
<i>MAFS</i>	<i>Ministry of Agriculture and Food Security</i>
<i>MCM</i>	<i>Ministry of Co-operatives and Marketing</i>
<i>MWLD</i>	<i>Ministry of Water and Livestock Development</i>
<i>NBS</i>	<i>National Bureau of Statistics</i>
<i>NGO</i>	<i>Non Governmental Organization</i>
<i>NMS</i>	<i>National Master Sample</i>
<i>NSCA</i>	<i>National Sample Census of Agriculture</i>
<i>NSGRP</i>	<i>National Strategy for Growth and Reduction of Poverty</i>
<i>PORALG</i>	<i>President's Office, Regional Administration and Local Government</i>
<i>PPS</i>	<i>Probability Proportional to Size</i>
<i>PSU</i>	<i>Primary Sampling Unit</i>
<i>RAAS</i>	<i>Rapid Appraisal Agricultural Survey</i>
<i>RS</i>	<i>Regional Supervisor</i>
<i>RSM</i>	<i>Regional Statistical Manager</i>
<i>SAC</i>	<i>Scotts Agriculture Consultancy Ltd</i>
<i>SPSS</i>	<i>Statistical Package for Social Science</i>
<i>SRS</i>	<i>Short Rainy Season</i>
<i>TOT</i>	<i>Training of Trainers</i>
<i>ULG</i>	<i>Ultek Laurence Gould</i>
<i>UNDP</i>	<i>United Nations Development Programme</i>
<i>UNFAO</i>	<i>United Nations Food and Agriculture Organization</i>
<i>VPO</i>	<i>Vice President Office</i>

PREFACE

At the end of the 2002/03 Agriculture Year, the National Bureau of Statistics and the Office of the Chief Government Statistician in Zanzibar in collaboration with the Ministries of Agriculture and Food Security; Water and Livestock Development; Cooperatives and Marketing as well as the Presidents Office, Regional Administration and Local Government (PORALG) conducted the Agriculture Sample Census. This is the third Agriculture Census to be carried out in Tanzania, the first one was conducted in 1971/72, the second in 1993/94 and 1994/95 (during 1993/94 data on household characteristics and livestock count were collected and data on crop area and production in 1994/95).

It is considered that this census is one of the largest to be carried out in Africa and indeed in many other countries of the world. The census collected detailed data on crop production, crop marketing, crop storage, livestock production, fish farming, tree farming, access to infrastructures and services and poverty indicators.

In addition to this, the census was large in its coverage as it provides data that can be disaggregated at district level and thus allow comparisons with the 1998/99 District Integrated Agricultural Survey. The census covered smallholders in rural areas only and large scale farms. This report presents Ruvuma region data disaggregated to district level. It was very difficult to discuss all variables collected in a single report hence the analysis was based on the most important smallholder variables. The rest of the variables are found in the attached annex of table of results. The analysis in the report includes time series comparisons using data from the previous censuses and surveys.

The extensive nature of the census in relation to its scope and coverage is a result of the increasing demand for more detailed information to assist in the proper planning of this sector and in the administrative decentralization of planning to district level. It is hoped that this report will provide new insights for planners, policy makers, researchers and others involved in the agricultural sector in order to improve the prevailing conditions faced by crop producers and livestock keepers in the country.

On behalf of the Government of Tanzania, I wish to express my appreciation for the financial support provided by the development partners, in particular, the European Union as well as DFID, UNDP, Japanese Government, JICA and others who contributed through the pool fund mechanism.

Finally, my appreciation goes to all those who in one-way or the other contributed to the success of the survey. In particular, I would also like to mention the enormous effort made by the Planning Group composed of professionals from the Agriculture Statistics Department of the National Bureau of Statistics (NBS), the Office of the Chief Government Statistician in Zanzibar (OCGS) and the Statistics Unit of the Ministry of Agriculture and Food Security (MAFS) with technical assistance provided by Ultec Lawrence Gould (ULG), Scotts Agriculture Consultancy Ltd and the Food and Agriculture Organisation of the United Nations (FAO).

Additionally, I would like to extend my appreciation to all professional staff of the National Bureau of Statistics, the sector Ministries of Agriculture and PORALG, the Consultants as well as Regional and District Supervisors and field enumerators for their commendable work. Certainly without their dedication, the census would not have been such a success.

Albina Chuwa
The Director General
National Bureau of Statistics

EXECUTIVE SUMMARY

The executive summary highlights the main survey results obtained during the National Sample Census of Agriculture 2002/03. This report covers small-scale agriculture households in rural areas of Ruvuma region who were selected using statistical sampling techniques. The results in the report do not cover urban areas and large-scale farmers.

The highlights describe the important findings in relation to agricultural production, productivity, husbandry, access to resources, levels of involvement in agricultural related activities and poverty in Ruvuma region activities indicators for one to get an overview, at regional level, of the rural agricultural households and their levels of involvement in agricultural related activities.

i) Household Characteristics

The number of agricultural households in Ruvuma region was 191,175 out of which 141,619 (74.1%) were involved in growing crops only, 132 (0.1%) rearing livestock only, and 49,424 (25.9%) were involved in crop production as well as livestock keeping. In summary, Ruvuma region had 191,043 households involved in crop production and 49,556 involved in livestock production.

Most of the agricultural households ranked annual crop farming as an activity that provided most of their cash income followed by permanent crop farming, off-farm income, livestock keeping/herding, remittances, fish/hunting/gathering and tree/forest resources.

The region has a literacy rate of 75 percent. The highest literacy rate was found in Songea Urban district (83%) followed by Mbinga district (80%) and Songea Rural district (78%). Tunduru and Namtumbo districts had the lowest literacy rates of 64 and 75 percent respectively. The literacy rate for the heads of households in the region was 83 percent.

The number of heads of agricultural households with formal education in Ruvuma region was 157,638 (82%), those without education were 30,529 (16%) and those with only adult education were 3,007 (2%). The majority of heads of agricultural households (77%) had primary level education whereas only 5 percent had post primary education.

In Ruvuma region 74,141 households (39%) had only one member aged 5 and above involved in only one off-farm income generating activity, 40,234 households (21%) had two members involved in off-farm income generating activities and 11,565 households (6%) had more than two members involved in off-farm income generating activities

ii) Crop Production

▪ Land Area

The total area of land available to smallholders was 799,230 ha. The Regional average land area utilised for agriculture per household was only 3.0 ha. This figure is above the national average of 2.0 hectares.

▪ Planted Area

The area planted with annual crops and vegetables was 358,203 hectares out of which 110 hectares (0.03%) were planted during dry season and 358,093 hectares (99.97%) during wet season.

An estimated area of 194,211 ha (54.2% of the total planted area with annuals) was with cereals, followed by roots and tubers (94,522 hectares, 26.4%), pulses (39,697 hectares, 11.1%), oil seeds (17,464 hectares, 4.9%), cash crops (7,169 hectares, 2.0%) and fruit and vegetables (5,140 hectares, 1.4%).

▪ **Maize**

Maize was the dominant cereal crop grown in Ruvuma region. The area planted with maize represented 71.9 percent of the total area planted with cereal crops. The total production of maize was 179,283 tonnes from a planted area of 139,505 hectares resulting in a yield of 1.3 t/ha.

There was a sharp increase in maize production (48%) in 1999 after which the production leveled in 2000 and then it declined during the year 2003. The average area planted with maize per household was 0.8 hectares, however it ranged from 0.6 hectares in Tunduru district to 1.0 hectares in Namtumbo district. In the wet season, Mbinga district had the largest area of maize (50,346 ha) followed by Namtumbo (28,809 ha), Songera Rural (28,503 ha), Tunduru (27,246 ha), and Songea Urban (4,600 ha).

▪ **Paddy**

Paddy is the second most important cereal crop in the region in terms of planted area. The number of households that grew paddy in Ruvuma region was 81,184. This represented 42 percent of the total crop growing households in Ruvuma region. The total production of paddy was 39,510 tonnes from a planted area of 38,178 hectares resulting in a yield of 1.03 t/ha.

▪ **Cassava**

The area planted with cassava was larger than any other root and tuber crop in Ruvuma region. It accounted for 87.0 percent of the total roots and tubers production. The total production of cassava during the census year was 101,965 tonnes from a planted area of 87,522 hectares resulting in a yield of 1.2t/ha

▪ **Fruit and Vegetables**

The total production of fruits and vegetables was 16,087 tonnes. The most cultivated fruit and vegetable crop was the tomato crop with a production of 7,328 tonnes (46% of the total fruit and vegetables produced) followed by cabbage (4,119t, 26%) and onions (1,704t, 11%). The production of other fruit and vegetable crops were relatively small.

▪ **Permanent Crops**

The area of smallholders planted area with permanent crops was 124,910 hectares which is 35 percent of the area planted with annual crops in the region. The most important permanent crop in Ruvuma region is cashewnut which had a planted area of 74,124 ha, (61% of the planted area of all permanent crops) followed by coffee (29,961 ha, 24%), and banana (7,751 ha, 6%).

▪ **Improved Seeds**

The planted area using improved seeds was estimated at 35,208 ha which represents 8 percent of the total area planted with the annual crops and vegetables. The percentage use of improved seed in the dry season was 13.6 percent, slightly higher than the corresponding percentage use in the wet season (9.8%).

- **Use of Fertilizers**

The planted area without fertiliser for annual crops was 281,740 hectares representing 78.7 percent of the total planted area with annual crops. Of the planted area with fertiliser application, inorganic fertilizers were applied to 43,402 ha which represents 12.1 percent of the total planted area (56.8% of the area planted with fertiliser application in the region). This was followed by farm yard manure (29,470 ha, 38.5%). Compost fertilizers were used on a very small area which represented only 47 percent of the area planted with fertilizers.

- **Irrigation**

In Ruvuma region, the area of annual crops under irrigation was 9,104 ha representing 3 percent of the total area planted. The area under irrigation during the wet season was 15 ha accounting for 0.16 percent of the total area under irrigation. The district with the largest planted area under irrigation with annual crops was Mbinga (2,731 ha, 30% of the total irrigated planted area with annual crops in the region). This was followed by Namtumbo with (2,122 ha, 23%) and then Tunduru (2,025 ha, 22%). When expressed as a percentage of the total area planted in each district, Songea Urban had the highest with 10.8% of the planted area in the district under irrigation. This is followed by Namtumbo (3.0%), Tunduru (2.4%), Mbinga (2.1%) and Songea Rural (1.7%)

- **Crop Storage**

There were 181,775 crop growing households (95.1% of the total crop growing households) that reported storing various agricultural products in the region.

The most important stored crop was maize with 172,771 households storing 34,081 tonnes as of 1st January 2004. This was followed by paddy (72,495 households, 3,273t), beans and other pulses (86,592 households, 2,599), sorghum and millet (27,879 households, 910t), groundnuts and bambara nuts (21,827 households, 469t) and seaweed (8,550 households, 461t). Other crops were stored in very small quantities.

- **Crop Marketing**

The number of households that reported selling crops was 176,924 which represent 92.6 percent of the total number of crop growing households. The percent of crop growing households selling crops was highest in Tunduru (96%) followed by Namtumbo (94%), Mbinga (91%), Songea Rural (91%) and Songea Urban (82%)

- **Agricultural Credit**

The census result shows that in Ruvuma region a considerable number of agricultural households (38,567, 18.6%) accessed credit out of which 32,939 (85%) were male-headed households and 5,628 (15%) were female headed households. In all districts both male and female headed households accessed agricultural credit.

- **Crop Extension Services**

The number of Agricultural households that received crop extension was 67,199 (35% of total crop growing households in the region). Some districts had more access to extension services than others, with Namtumbo having a relatively high proportion of households (55%) that received crop extension messages followed by Songea Urban (40%), Mbinga (35%), Tunduru(30%) and Songea Rural (23%).

- **Soil Erosion and Water Harvesting Facilities**

The number of agricultural households that had soil erosion and water harvesting facilities on their farms was 12,403 which represent 6 percent of the total number of agricultural households in the region. The proportion of households with soil erosion control and water harvesting facilities was highest in Mbinga district (12%) followed by Songea Urban (11%), Songea Rural (3%), Namtumbo (1%) and Tunduru (1%)

- iii) **Livestock and Poultry Production**

- **Cattle**

The total number of cattle in the region was 121,175. Cattle were the dominant livestock type in the region followed by goats, pigs and sheep. The region had 0.7 percent of the total cattle population on Tanzania Mainland. The number of indigenous cattle in Ruvuma region was 105,884 (87.4 % of the total number of cattle in the region), 15,111 cattle (12.5%) were dairy breeds and 181 cattle (0.1%) were beef breeds.

- **Goats**

The number of goat-rearing-households in Ruvuma region was 68,381 (36% of all agricultural households in the region) with a total of 309,595 goats giving an average of 5 head of goats per goat-rearing-household.

- **Sheep**

The number of sheep-rearing households was 7,390 (4% of all agricultural households in Ruvuma region) rearing 24,458 sheep, giving an average of 3 heads of sheep per sheep-rearing household.

- **Pigs**

The number of pig-rearing households in the region was 2,601 (1% of the total agricultural households) rearing about 6,281 pigs. This gives an average of 2 pigs per pig-rearing household.

- **Chicken**

The number of households keeping chicken was 139,284 raising about 1,555,617 chickens. This gives an average of 11 chickens per chicken-rearing household. In terms of total number of chickens in the country, Ruvuma region was ranked eighth out of the 11 Mainland regions.

- **Use of Draft Power**

The region had 55 oxen. Only Songea Urban had 55 oxen which were used to cultivate 33 hectares of land. This represented only 0.001 percent of the total oxen found on the Mainland

- **Fish Farming**

The number of households involved in fish farming in Ruvuma region was 4,035, representing 2 percent of the total agricultural households in the region. Songea Rural was the leading district with 1,294 households (32.1% of agricultural households involved in fish farming. In the region). This was followed by Namtumbo (933 households, 23.1%), Mbinga (910 households, 22.5%), Songea Urban (610 households, 14.9%) and Tunduru (298 households, 7.4%).

iv) Poverty Indicators**▪ Availability of Toilets**

It was estimated that 96 percent of all rural agricultural households used the traditional pit latrines, 1 percent used improved pit latrine and 2 percent had flush toilets. Households with no toilet facilities represented 1 percent of the total agriculture households in the region.

▪ Household Assets

Radios were owned by most rural agricultural households in Ruvuma region with 109,159 households (57.1% of the agriculture households in the region) owning the asset, followed by bicycles (69,706 households, 36.5%), irons (49,616 households, 26.0%), wheelbarrows (7,944 households, 4.2%), mobile phones (2,460 households, 1.3%), vehicles (2,284 households, 1.2%), TVs/Videos (1,549 households, 0.8%) and landline phones (1,496 households, 0.8%)

▪ Source of Lighting Energy

Wick lamp is the most common source of lighting energy in the region. with 50.7 percent of the total rural households using this source of energy followed by hurricane lamp (44.2%), pressure lamp (3.0%), firewood (1.0%), gas or biogas (0.3%) mains electricity (0.3%), candle (0.3%) and solar (0.2%).

▪ Energy for Cooking

The most prevalent source of energy for cooking was firewood, which was used by 97.1 percent of all rural agricultural households in Ruvuma region. This was followed by charcoal (1.9%). The rest of energy sources accounted for 1.0 percent.

▪ Roofing Materials

The most common roofing material for the main dwelling was grass and/or leaves which was used by 69.2 percent of the rural agricultural households. This was followed by iron sheets (33.4%), grass/mud (4.0%), tiles (0.6%), concrete (0.2%) and asbestos (0.0%).

▪ Number of Meals per Day

About 64.5 percent of the holders in the region took three meals per day, 33.4 percent took two meals and 1.9 percent took one meal. Only 0.2 percent took four meals.

▪ Food Security

Households which seldom had problems in satisfying their food needs represent 25.2 percent of the total number of agriculture households in the region. Households with recurring food shortage problems represent 6.6 percent whereas those with little problems represent 2.5 percent. About 3.2 percent of agriculture households always faced food shortages whilst 62.5 percent had not experienced any food shortage problems.

▪ Main Source of Cash Income

Selling of food crops was the main cash income earning activity reported by 49.5 percent of all rural agricultural households. The second main cash income earning activity was selling of cash crops (26%) followed by other casual cash earnings (8%), business income (4%), wages and salaries (4%), fishing (3%), and remittance (3%). Only 1% of smallholder households reported the sale of livestock as their main source of cash income.

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1. BACKGROUND INFORMATION

1.1 Introduction

This part of the report presents a brief description of the region by providing information on geographical location, land area, climate, administrative set up, population and socio-economic indicators. The information aims at providing the user with a general understanding of the region and its resources.

1.2 Geographical Location and Boundaries

Ruvuma region is situated in the southern part of the country along with Mtwara and Lindi regions. It borders the Republic of Mozambique in the south, Lake Nyasa in the west and Iringa and Morogoro regions in the north.

The region comprises five districts of Tunduru, Songea Rural, Mbinga, Songea Urban and Namtumbo. The region headquarters is located in Songea Urban District.

1.3 Land Area

The region has an area of 66,477 square kilometers, of which about 50,540 square kilometers are arable land. Also out of the total area 2,979 square kilometers are under water bodies while 63,498 square kilometers are land area. The forest reserves cover 6,958 square kilometers.

1.4 Climate

1.4.1 Temperature

The temperature in the region is moderately mild at an average temperature of 23°C depending on the altitude and season. The months of June, July and August are chilly with the temperature dropping to 13°C, particularly in the areas surrounding Matengo highlands in Mbinga district. October and November are the hottest months with an average temperature of 30°C in the lowlands.

1.4.2 Rainfall

The region has two seasons, the dry and the wet seasons. The dry season (vuli) is from October to November and the wet season (Masika) from April to May.

The average rainfall is between 800 and 1,800 millimeters. The amount varies from one district to another. Mbinga district has the highest average annual rainfall of 1,225 millimeters while Tunduru district has the lowest rainfall which is usually less than 900 millimeters per year.

1.5 Population

According to the 2002 Population and Housing Census, there were 1,117,166 inhabitants in Ruvuma region. The population of Ruvuma region ranked 17th of the 21 regions of Tanzania Mainland.

1.6 Socio - Economic Indicators

The regional Gross Domestic Product (GDP) at current prices for the year 2003 was estimated to be TShs 376,616

Million with a per capita income of shillings 337,117. The region held 10th position among regions on GDP and contributed about 3.8 percent of the national GDP¹.

The region is famous for producing both food and cash crops. The main food crops produced in Ruvuma region include: maize, beans, sorghum, cassava, millet, paddy, wheat, sweet potatoes, irish potatoes, yams, sunflower, simsim and grounnuts. The main cash crops include cashew nut, tobacco and coffee. Livestock keeping is also an important economic activity in the region.

¹ Hali ya Uchumi wa Taifa Katika Mwaka 2003

2. INTRODUCTION

This part of the report provides the technical and operational description of the National Sample Census of Agriculture (NSCA), carried out in the rural areas of Tanzania Mainland and Zanzibar during the 2002/03 agricultural year. It details the background and the rationale for carrying out the NSCA in 2002/03 agricultural year. It also explains the sampling procedures, designing and implementation of the data processing system.

2.1 The Rationale for Conducting the National Sample Census of Agriculture

In 2003, the Government of Tanzania launched the Agricultural Sample Census as an important part of the Poverty Monitoring Master Plan which supports the production of statistics for advocacy of effective public policy, including poverty reduction, access to services, gender, as well as the standard crop production data normally collected in an agriculture census. The census is intended to fill the information gap and support planning and policy formulation by high level decision making bodies. It is also meant to provide critical benchmark data for monitoring Agriculture Sector Development Programme (ASDP) and other agriculture and rural development programs as well as prioritising specific interventions of most agriculture and rural development programs.

Following the decentralisation of the Government's administration and planning functions, there has been a pressing need for agriculture and rural development data disaggregated at regional and district levels. The provision of district level estimates will provide essential baseline information on the state of agriculture and support decision making by the Local Government Authorities in the design of District Agricultural Development and Investment Projects (DADIPS). The increase in investment is an essential element in the national strategy for growth and reduction of poverty.

This report (Volume V) is among the 21 regional reports for the mainland. Other Census reports include the Technical Report (Volume I), crop sector at national and regional levels including Zanzibar estimates (Volume II), Livestock Report (Volume III), Smallholder Household Characteristics and Access to Natural Resources Report (Volume IV), 21 Regional Reports for the Mainland (Volume V), Large Scale Farms Report (Volume VI) and a separate report for Zanzibar (Volume VII). In order to address the specific issue of gender, a separate thematic report on gender has been published. Other thematic reports will be produced depending on the demand and availability of funds. In addition to these reports two dissemination applications have been produced to allow users to create their own tabulations, charts and maps.

The report is divided into five main sections: Background Information, Introduction, Results, Evaluation and Conclusion and Appendices. The definitions relating to all aspects of this report can be found in the questionnaire (Appendix III).

2.2 Census Objectives

The 2003 Agriculture Sample Census was designed to meet the data needs of a wide range of users down to district level including policy makers at local, regional and national levels, rural development agencies, funding institutions, researchers, Non government Organisations (NGOs), farmer organisations, etc. As a result, the dataset is both more numerous in its sample and detailed in its scope compared to previous censuses and surveys. To date this is the most detailed Agricultural Census carried out in Africa. The census was carried out in order to:

- Identify structural changes if any, in the size of farm household holdings, crop and livestock production, farm input and implement use. It also seeks to determine if there are any improvements in rural infrastructure and in the level of agriculture household living conditions;

-
- Provide benchmark data on productivity, production and agricultural practices in relation to policies and interventions promoted by the Ministry of Agriculture and Food Security and other stake holders.
 - Establish baseline data for the measurement of the impact of high level objectives of the Agriculture Sector Development Programme (ASDP), National Strategy for Growth and Reduction of Poverty (NSGRP) and other rural development programs and projects.
 - Obtain benchmark data that will be used to address specific issues such as: food security, rural poverty, gender, agro-processing, marketing, service delivery, etc.

2.3 Census Coverage and Scope

The census was conducted for both large and small scale farms. The National Sample Census of Agriculture covered a total of 3,221 selected rural villages of Tanzania Mainland out of which 141 villages were from Ruvuma region.

The census covered agriculture in detail as well as many other aspects of rural development and was conducted using three types of questionnaires:

- Small scale farm questionnaire
- Community level questionnaire
- Large scale farm questionnaire

The small scale farm questionnaire was the main census instrument and it includes questions related to crop and livestock production and practices; population demographics; access to services, resources and infrastructure; issues on poverty, gender and subsistence versus profit making production units. The main sections covered are as follows:

- Identification (i.e. region, district, ward and village)
- Household and holding characteristics
- Household information
- Land ownership/tenure
- Land use
- Access and use of resources
- Crop and vegetable production
- Agro processing and by-Products
- Crop storage and marketing
- On-farm investment
- Access to farm inputs and implements
- Use of credit for agricultural purposes
- Tree farming/agro-forestry
- Crop extension services
- Livelihood constraints
- Animal contribution to crop production
- Livestock
- Livestock products
- Fish farming
- Livestock extension
- Labour use

- Access to infrastructure and other services
- Household facilities

The community level questionnaire was designed to collect village level data such as access and use of common resources, community tree plantation and seasonal farm gate prices.

The large scale farm questionnaire was administered to large scale farms that were either privately or corporately managed. There will be a national report on large scale farming on Tanzania Mainland.

2.4 Legal Authority of the National Sample Census of Agriculture

The NSCA 2002/03 was conducted under the legal authority of the 2000 National Bureau of Statistics Act which, among other things, makes data collected from individuals strictly confidential and to be used for statistical purposes only.

2.5 Reference Period

Two types of reference periods were used namely the agricultural year and the reference date for livestock enumeration. The agricultural year 2002/03 (that is October 2002 to September 2003) was used for the data items that are related to crop production. The reference date of enumeration for livestock and poultry count was 1st October 2003.

2.6 Census Methodology

The main focus at all stages of the census execution was on data quality and this is emphasised in this section. The main activities undertaken include:

- Census organisation
- Tabulation plan preparation
- Sample design
- Design of census questionnaires and other instruments.
- Field pretesting of the census instruments
- Training of trainers, supervisors and enumerators
- Information Education and Communication (IEC) campaign
- Data Collection
- Field supervision and consistency checks
- Data processing:
 - Scanning
 - ICR extraction of data
 - Structure formatting application
 - Batch validation application
 - Manual data entry application
 - Tabulation preparation using SPSS
- Table formatting and charts using Excel, map generation using ArcView and Freehand.
- Report preparation using Word and Excel.

2.6.1 Census Organization

The Census was conducted by the National Bureau of Statistics in collaboration with the sector ministries of agriculture, and the Office of the Chief Government Statistician in Zanzibar. At the national level the Census was headed by the

Director General of the National Bureau of Statistics with assistance from the Director of Economic Statistics. The Planning Group, made up of staff from the National Bureau of Statistics, Department of Agricultural Statistics and three representatives from the Ministry of Agriculture and Food Security (Department of Policy and Planning), oversaw the overall operational aspects of the Census. At the regional level, implementation of census activities was overseen by the Regional Statistical Officer of NBS and the Regional Agriculture Supervisor from the Ministry of Agriculture and Food Security. At the District level, two supervisors from the President's Office, Regional Administration and Local Government (PORALG), managed the enumerators who also came from the same ministry.

Members of the Planning Group had a minimum qualification of a bachelor degree, the regional supervisors were either agricultural economists, statisticians or statistical officers. The district supervisors and enumerators had diploma level qualifications in agriculture.

The Census and Surveys Technical Working Group provided support in sourcing financing, approving budget allocations and technical assistance inputs as well as monitoring the progress of the census. A Technical Committee for the census was established with members from key stakeholder organisations (i.e. NBS, sector ministries of agriculture, President's Office, Planning and Privatization (POPP), PORALG, University of Dar es Salaam (UDSM), Tanzania Food and Nutrition Centre (TFNC) and the Office of Chief Government Statistician (OCGS) in Zanzibar). The main function of the committee was to approve the proposed instruments and procedures developed by the Planning Group. It also approved the tabulations and analytical reports prepared from the Census data.

2.6.2 Tabulation Plan

The tabulation plan was developed following three user group workshops and thus reflects the information needs of the end users. It took into consideration the tabulations from previous census and surveys to allow trend analysis and comparisons.

2.6.3 Sample Design

The Mainland sample consisted of 3,221 villages. These villages were drawn from the National Master Sample (NMS) developed by the National Bureau of Statistics (NBS) to serve as a national framework for the conduct of household based surveys in the country. The National Master Sample was developed from the 2002 Population and Housing Census. In most cases, within each selected village, data was collected from a sub-sample of fifteen agricultural households. In few large villages thirty households were selected. The total Mainland sample was 48,315 agricultural households. In Zanzibar a total of 317 EAs were selected and 4,755 agricultural households were covered. Nationwide, all regions and districts were sampled with the exception of three Urban districts (two from Mainland and one from Zanzibar).

In both Mainland and Zanzibar a stratified two stage sample was used. In the first stage, villages/enumeration areas (EAs) were selected with probability proportional to the number of villages in each district. In the second stage, 15 households were selected from a list of farming households in each Village/EA using systematic random sampling. Table 2.1 gives the sample size of households, villages and districts for Tanzania Mainland and Zanzibar.

Table 2.1: Census Sample Size

Number of	Mainland	Zanzibar	Total
Households	48,315	4,755	53,070
Villages/Eas	3,221	317	3,539
Districts	117	9	126
Regions	21	5	26

2.6.4 Questionnaire Design and Other Census Instruments

The census questionnaires were designed following user/producer meetings to ensure that the information collected was in line with their data needs. Several features were incorporated into the design of the questionnaire to increase the accuracy of the data:

- Where feasible all variables were extensively coded to reduce post enumeration coding error.
- The definitions for each section were printed on the opposite page so that the enumerator could easily refer to the instructions whilst interviewing the farmer.
- The responses to all questions were placed in boxes printed on the questionnaire, with one box per character. This feature made it possible to use scanning and ICR technologies for data entry.
- Skip patterns were used to avoid asking unnecessary questions
- Each section was clearly numbered, which facilitated the use of skip patterns and provided a reference for data type coding for the programming of CSPro, SPSS and the dissemination applications.

Besides the questionnaires, there were other instruments used:

- Village listing forms that were used for listing households in the villages and from these list a systematic sample of 15 agricultural households were selected from each village.
- Training manual which was used by the trainers for the cascade/pyramid training of supervisors and enumerators. This manual was trainers guiding document on the procedures to follow during the training
- Enumerator Instruction Manual which was used as reference material.

2.6.5 Field Pre-Testing of the Census Instruments

The Questionnaire was pre-tested in five locations (Arusha, Dodoma, Tanga, Unguja and Pemba). This was done purposely to test the wording, flow and relevance of the questions and to finalise crop lists, questionnaire coding and manuals. In addition to this, several data collection methodologies had to be finalised, namely, livestock numbers in pastoralist communities, cut flower production, mixed cropping, use of percentages in the questionnaire and finalising skip patterns and documenting consistency checks.

2.6.6 Training of Trainers, Supervisors and Enumerators

Cascade/pyramid training techniques were employed to maintain statistical standards. The top level training was provided to 66 national and regional supervisors (3 per region plus Zanzibar). The trainers were members of the Planning Group and the trainees were from the National Bureau of Statistics and the sector ministries of agriculture. The second level training was for the district supervisors and enumerators. This training was conducted in the regions. In each region three training sessions were conducted for the district supervisors and enumerators. In addition to training in field level Census methodology and definitions, emphasis was placed on training the enumerators and supervisors in consistency checking. Tests were given to the enumerators and supervisors and the best 50 percent of the trainees were selected to administer the smallholder and community level questionnaires. This increased the number of interviews per enumerator but it also released finance to increase the number of supervisors and hence the Supervisor Enumerator Ratio. The household listing exercise was carried out by all trained enumerators.

2.6.7 Information, Education and Communication (IEC) Campaign

Information, Education and Communication (IEC) is an important aspect of any census/survey undertaking. This is due to the fact that inadequately informed and hence uncooperative citizens may jeopardize the entire census/survey. As far as the

2002/03 Agricultural Sample Census was concerned, the main objective of the IEC program was to sensitize and mobilize Tanzanians to support, cooperate and participate in the census exercise.

Radio, television, newspapers, leaflets, t-shirts and caps were used to publicise the Sample Census. T-shirts and caps were used by the field staff and the village chairmen as official uniforms during the field work. The village chairmen helped to locate the selected households.

2.6.8 Household Listing

The household listing exercise was done in seven days. During the listing exercise, forms ACLF1 and ACLF2 were administered. The information collected included the number of fields operated by the household, the number of different types of livestock and poultry. This information was used to determine the agricultural households. From the list of agricultural households, 15 households were selected for the interview. The selection was done using the Random Number Table.

2.6.9 Data Collection

Data collection activities for the 2002/2003 Agricultural Sample Census took three months from January to March 2004. The data collection methods used during the census were by interview and no physical measurements, e.g., crop cutting and field area measurement were taken. Field work was monitored by a hierarchical system of supervisors at the top of which was the Mobile Response Team followed by the national, regional, and district supervisors.

The Mobile Response Team consisted of three principal supervisors who provided overall direction to the field operation and responded to queries arising outside the scope of the training exercise. The mobile response team consisted of the Manager of Agriculture Statistics Department, Long-term Consultant and Desk Officer for the Census. Decisions made on definitions and procedures were then communicated back to all enumerators via the national, regional and district supervisors.

District supervision and enumeration were done by staff from the President's Office, Regional Administration and Local Government (PORALG). National and regional supervisions were provided by senior staff of the National Bureau of Statistics and the sector ministries of agriculture. During the household listing exercise 3,221 extension staff were used. For the enumeration of the small holder questionnaire, 1,611 enumerators were used and additional 5 percent enumerators were held in reserve in case of drop outs during the enumeration exercise.

2.6.10 Field Supervision and Consistency Checks

Enumerators were trained to probe the respondents until they were satisfied with the responses given before they recorded them in the questionnaire. The first check of the questionnaires was done by enumerators in the field during enumeration. The second check was done by the district supervisors followed by regional and national supervisors. Supervisory visits at all levels of supervision focused on consistency checking of the questionnaires. Inconsistencies encountered were corrected, and where necessary a return visit to the respondent was made by the enumerator to obtain the correct information. Further quality control checks were made through a major post enumeration checking exercise where all questionnaires were checked for consistencies by all supervisors in the district offices.

2.6.11 Data Processing

Data processing consisted of the following processes:

- Manual editing
- Data entry
- Data structure formatting
- Batch validation
- Tabulation
- Illustration production
- Report formatting

Manual Editing

Prior to scanning, all questionnaires underwent a manual cleaning exercise. This involved checking that the questionnaire had a full set of pages, correct identification and good handwriting. A score was given to each questionnaire based on the legibility and the completeness of enumeration. This score will be used to assess the quality of enumeration and supervision in order to select the best field staff for future censuses/surveys.

Data entry/Scanning and ICR extraction technologies

Scanning and ICR data capture technology was used for the small holder questionnaire. This not only increased the speed of data entry, it also increased the accuracy due to the reduction in keystroke errors. Interactive validation routines were incorporated into the ICR software to track errors during the verification process. The scanning operation was so successful that it is highly recommended that this technology be adopted for future censuses/surveys.

The Census and Surveys Processing Program (CSPro) was used to enter 2,880 of small holder questionnaires that were rejected by the Intelligent Character Recognition (ICR) extraction application.

Data structure formatting

A program was developed in visual basic to automatically alter the structure of the output from the scanning/extraction process in order to harmonise it with the manually entered data. The program automatically checked and changed the number of digits for each variable, the record type code, the number of questionnaires in the village, the consistency of the Village Identification (ID) code and saved the data of one village in a file named after the village code.

Batch validation

A batch validation program was developed in order to identify inconsistencies within a questionnaire. This is in addition to the interactive validation during the ICR extraction process. The procedures varied from simple range checking within each variable to more complex checking between variables. It took six months to screen, edit and validate the data from the smallholder questionnaire. After the long process of data cleaning, the results were prepared based on a pre-designed tabulation plan.

Tabulations

Statistical Package for Social Sciences (SPSS) was used to produce the Census results and Microsoft Excel was used to organize the tables and compute additional indicators.

Analysis and report preparation

The analysis in this report focuses on regional and district production estimates, districts comparisons and time series analysis. Microsoft Excel was used to produce charts; whereas Microsoft Word was used to compile the report.

Data quality

A great deal of emphasis was placed on data quality throughout the whole exercise from planning, questionnaire design, training, supervision, data entry, validation and cleaning/editing. As a result of this NBS believes that the Census is highly accurate and representative of what was experienced at field level during the Census year. With very few exceptions the variables in the questionnaire are within the norms for Tanzania and they follow expected time series trends when compared to historical data. Standard Errors and Coefficients of Variation for the main variables can be found in the Technical Report (Volume I).

2.7 Funding Arrangements

The Agricultural Sample Census was supported mainly by the European Union (EU) who financed most of the operational activities. Other funds for operational activities came from the Government of Tanzania, Government of Japan, United Nations Development Programme (UNDP) and other partners in the Pool Fund of the Vice President's Office (VPO). In addition to this, technical assistance was provided by the European Union (EU), Department for International Development (DFID) and Japanese International Cooperation Agency (JICA). Technical assistances were managed by Ultek Laurence Gould Consultants (ULG), Scotts Agriculture Consultancy Ltd (SAC) and the Food and Agriculture Organisation (FAO).

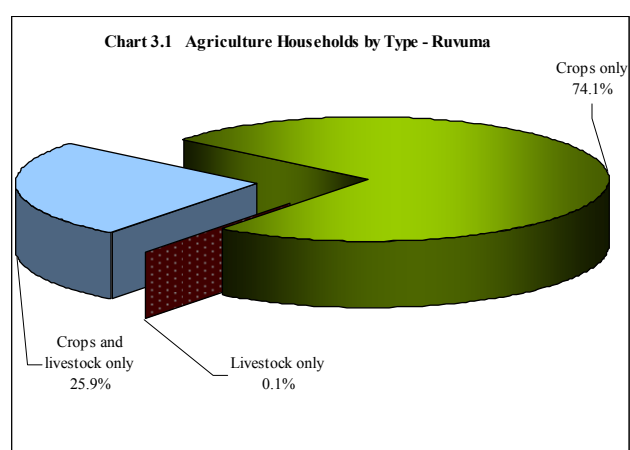
3. CENSUS RESULTS

This part of the report presents the results of the census for Ruvuma region. based on the statistical tables presented in Appendix A2. The results are presented in different forms including brief summaries, charts, condensed tables, graphs and maps in order to make it easy for the users to understand. Comparisons are made between related variables and between districts. Comparisons are also made with past censuses and surveys' results such as the 1994/95 National Sample Census of Agriculture (NSCA), the 1995/96 and the 1996/97 Expanded Agricultural Surveys, the 1997/98 Integrated Agricultural Surveys, the 1998/99 District Integrated Agricultural Survey and the 1999/00 Rapid Agricultural Appraisal Survey. The presentation of results is divided into four main sections which are household characteristics, crop results, livestock results and poverty indicators. Compared to previous census and surveys, more effort has been placed in analyzing the results in order to formulate solid conclusions.

3.1 Household Characteristics

3.1.1 Type of Household

The number of agricultural households in Ruvuma region was 191,175. The largest number of agriculture households was in Mbinga (79,589) followed by Tunduru (45,053), Songea Rural (28,109), Namtumbo (27,456) and Songea Urban (5,717) (Map 3.1). The highest density of households was found in Songea Urban (45/km²) followed by Mbinga (18/ km²) (Map 3.2). Most households 141,619 (74.1%) were involved in growing crops only, 132 (0.1%) were rearing livestock only, and 49,424 (25.9%) were involved in crop production as well as livestock keeping. There were no pastoralists in the region (Chart 3.1) (Map 3.3, 3.4, 3.5 and 3.6).

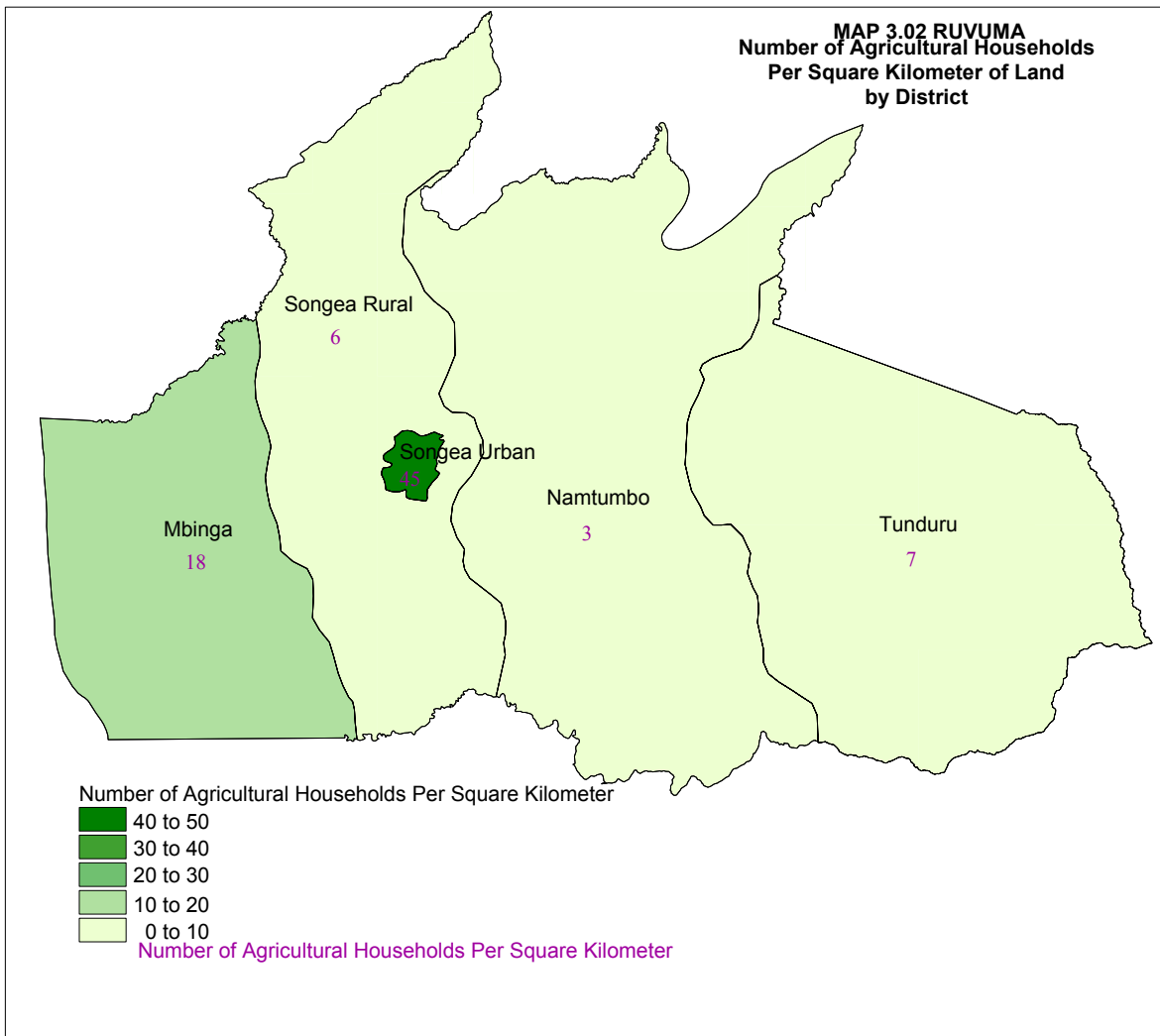
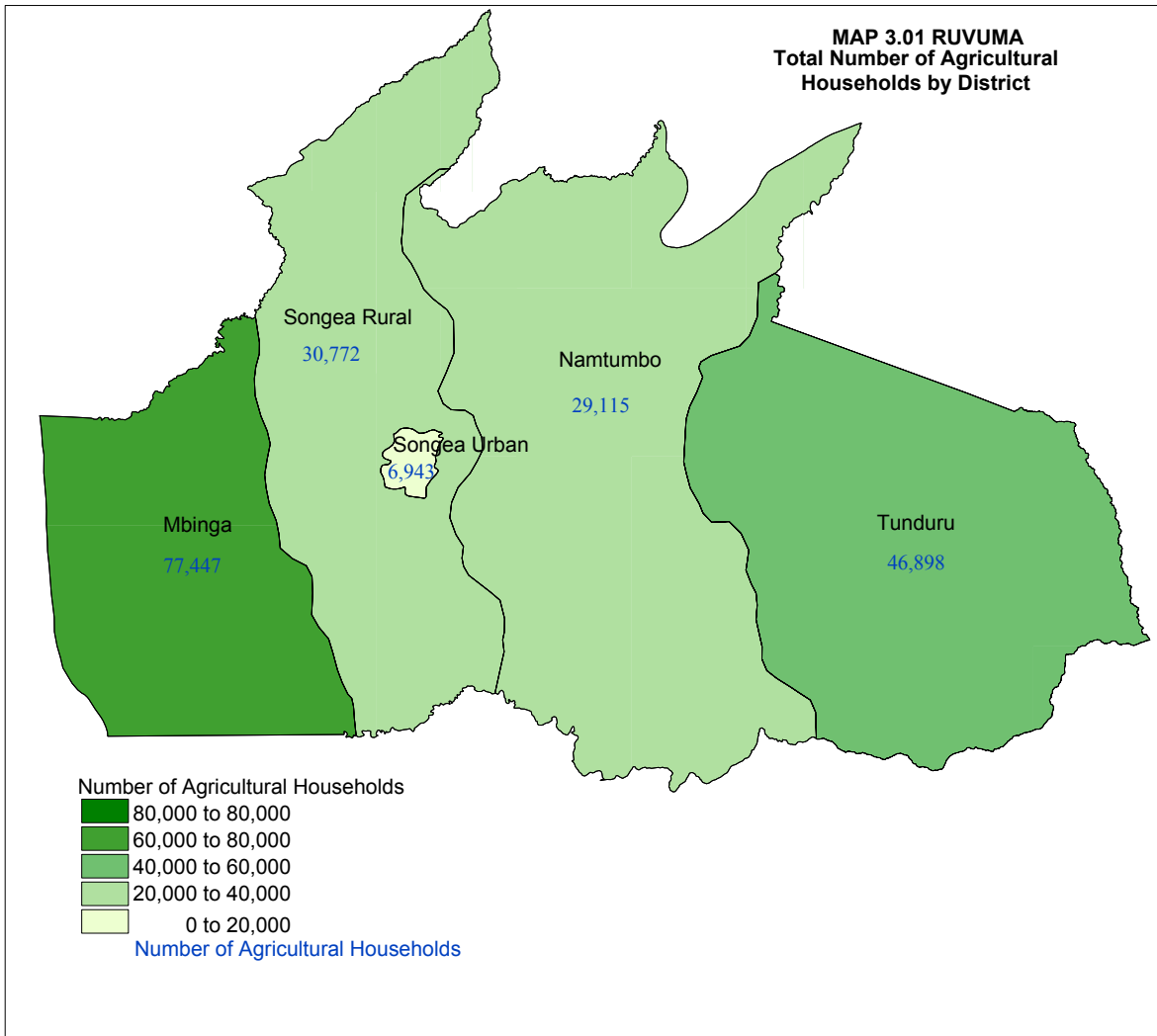


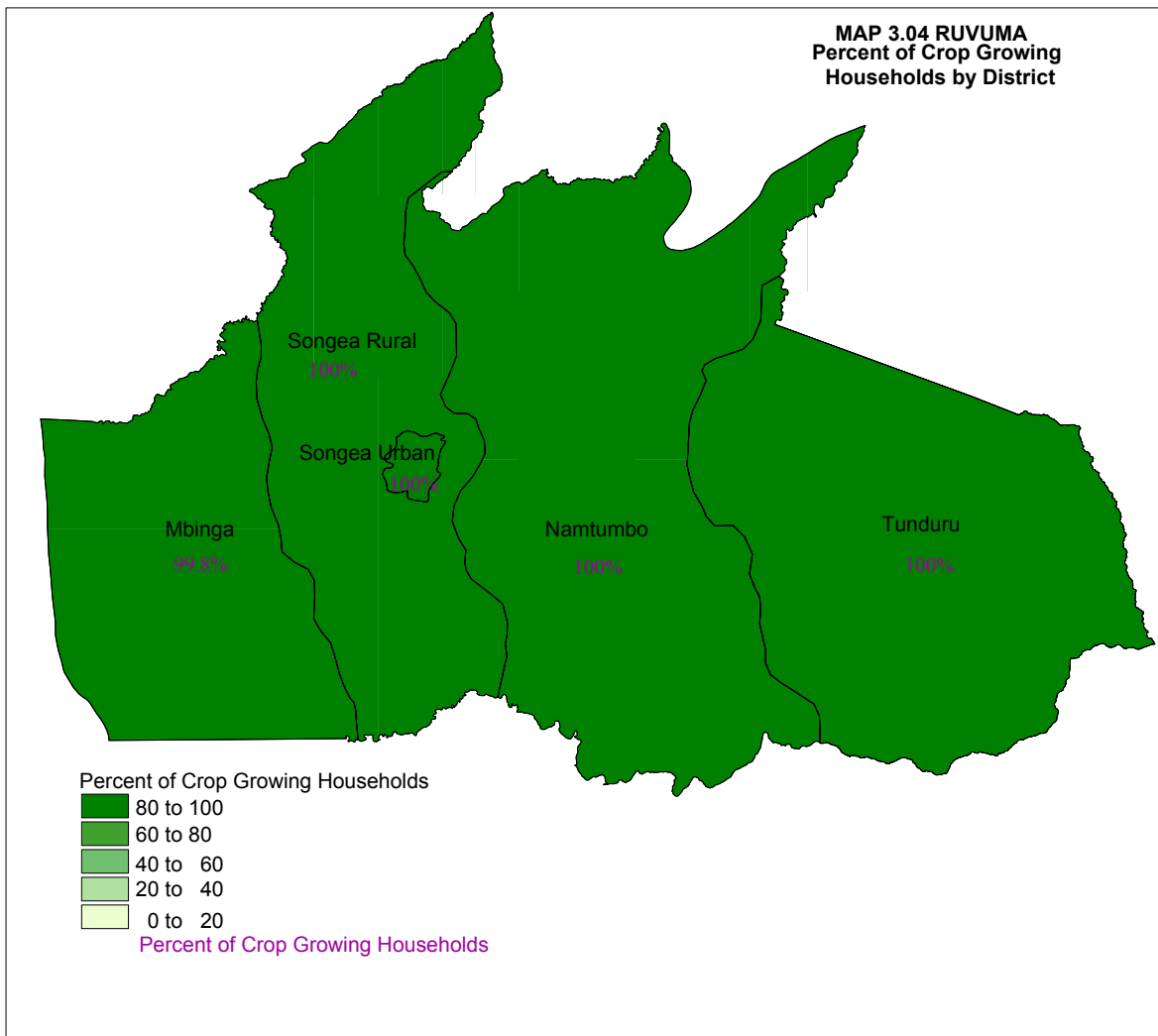
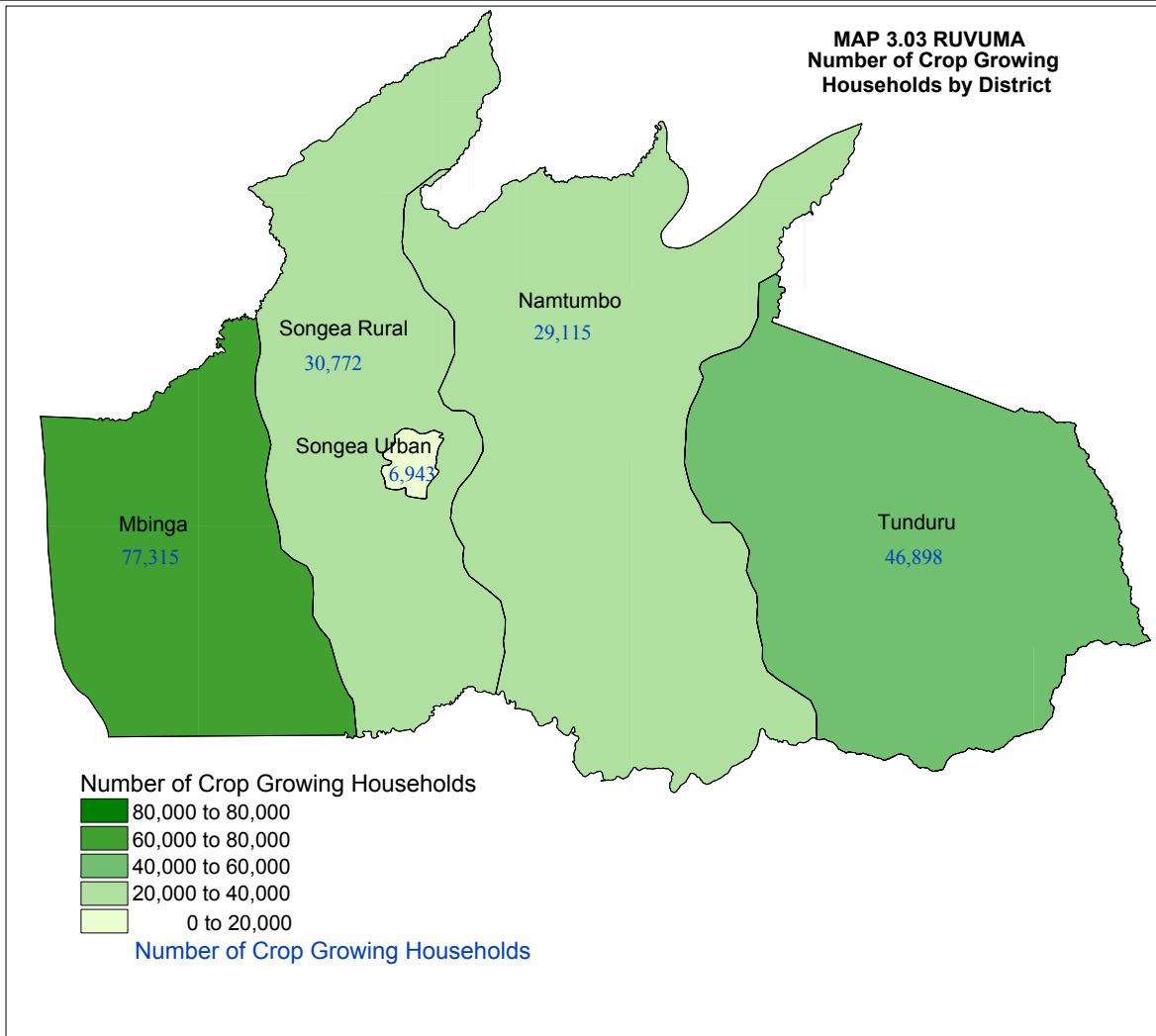
3.1.2 Livelihood Activities/Source of Income

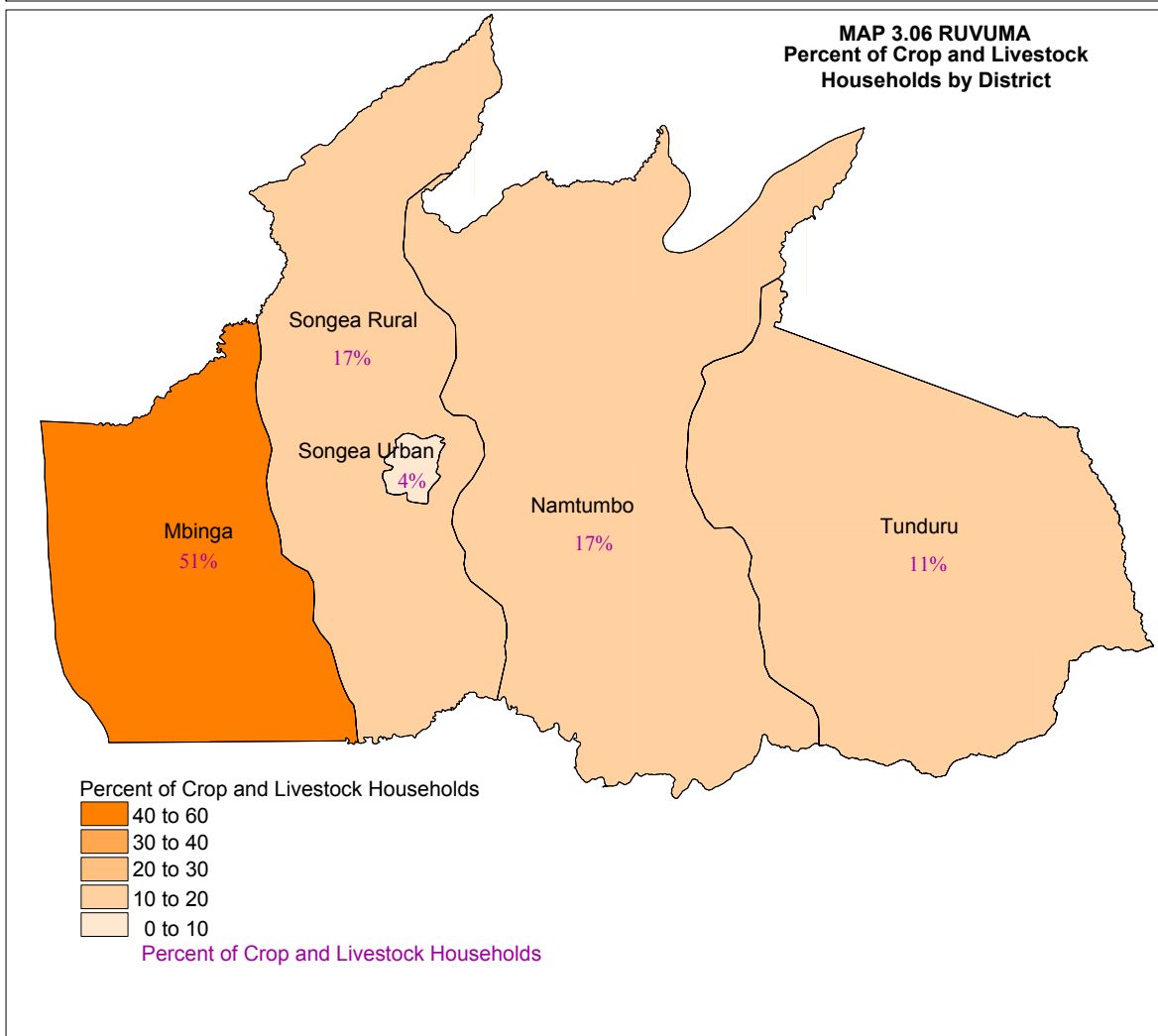
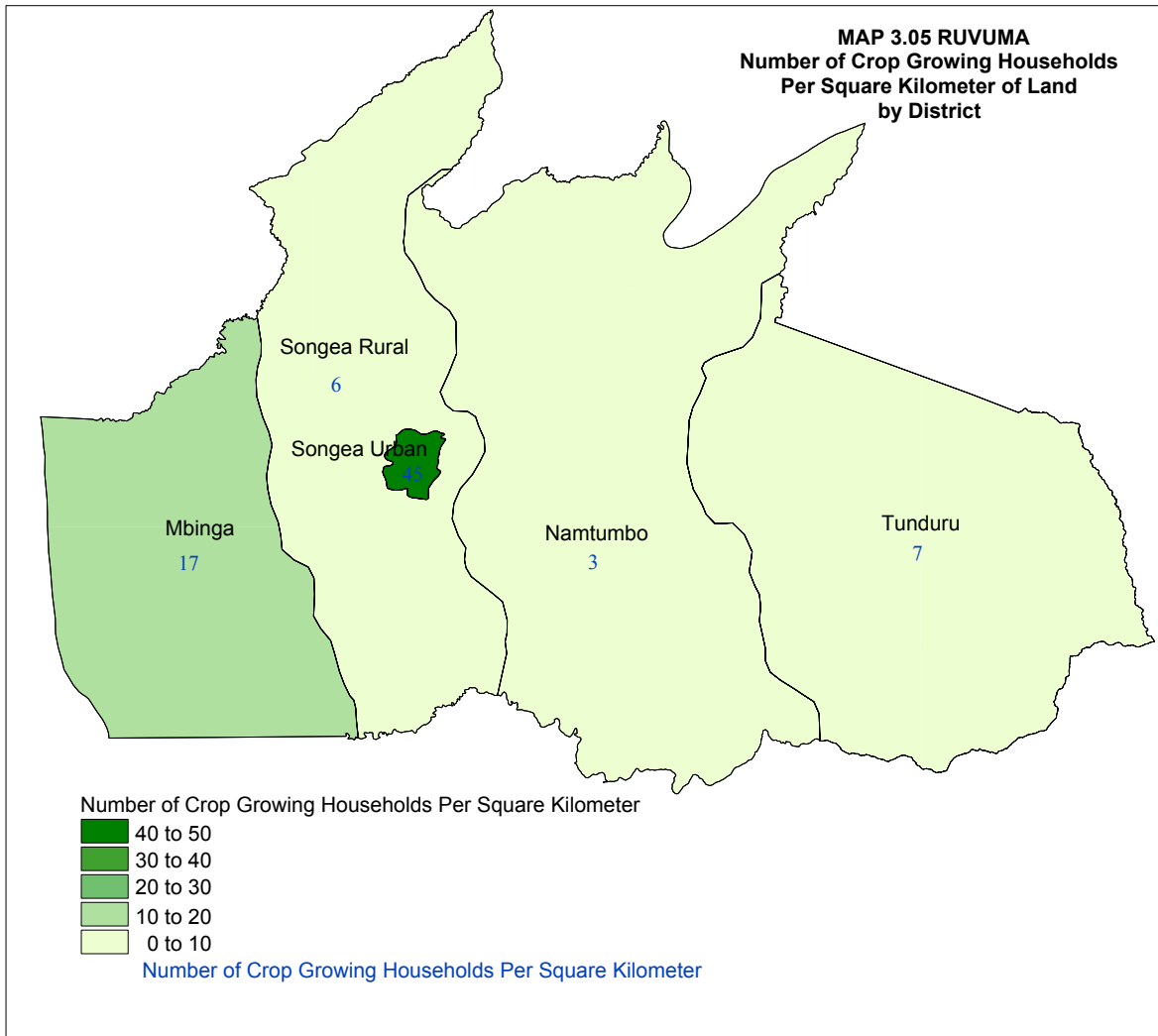
In Ruvuma region most of the agricultural households ranked annual crop farming as the activity that provides most of their cash income followed by permanent crop farming, off farm income, livestock keeping/herding, remittances, fishing/hunting & gathering and tree/forest resources (Table 3.1).

Table 3.1 The Livelihood Activities/Source of Income of the Households Ranked in Order of Importance by District

District	Livelihood Activity						
	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Tunduru	1	2	4	3	5	6	7
Songea Rural	1	2	4	3	5	6	7
Mbinga	1	2	3	4	5	6	7
Songea Urban	1	3	4	2	5	6	7
Namtumbo	1	2	3	4	5	6	7
Total	1	2	4	3	5	6	7



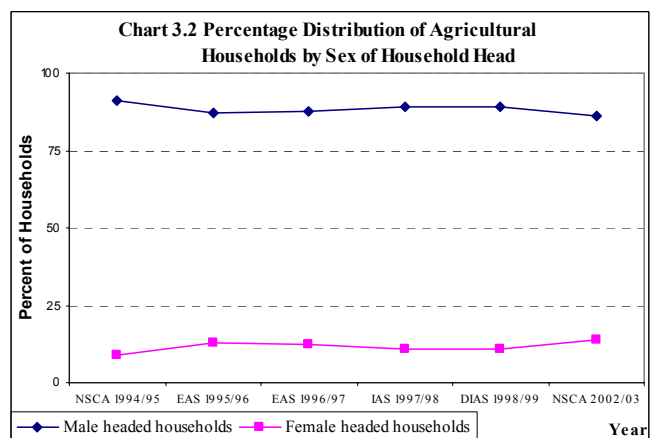




3.1.3 Sex and Age of Head of Households

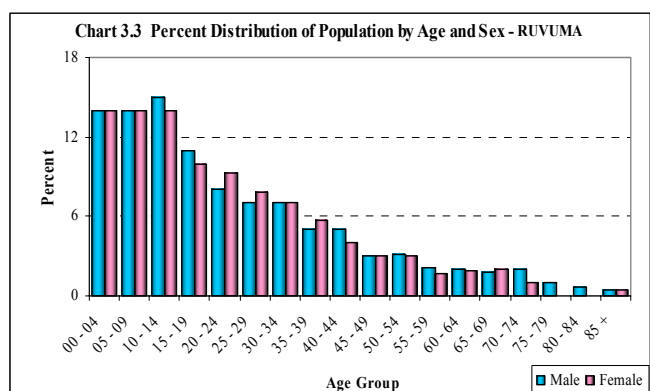
The number of male-headed agricultural households in Ruvuma region was 169,347 (86% of the total regional agricultural households) while the female-headed households were 26,828 (14% of the total regional agricultural households). The mean age of household heads was 45 years (44 years for male heads and 49 years for female heads) (Chart 3.2).

The results from six censuses/surveys years show that there has not been any significant change in the distribution of agricultural households between male and female headed households.



3.1.4 Number and Age of Household Members

Ruvuma region had a total rural agricultural population of 891,662 of which 438,796 (49%) were males and 452,866 (51%) were females. Whereas age group 0-14 constituted 43 percent of the total rural agricultural population, age group 15–64 (active population) was only 53 percent (Chart 3.3). Ruvuma region had an average household size of 4.7 with Mbinga district having the lowest household size of 4.4.



3.1.5 Level of Education

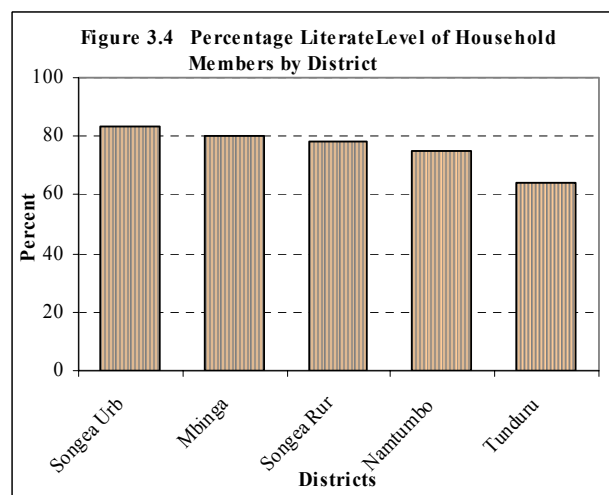
In order to obtain information on the level of education, information on literacy and education attainment were obtained for all persons aged five years and above in all households.

Literacy

The information on literacy level for family members aged five years and above was obtained by asking individual private households if their respective family members could read and write in Kiswahili only, English only, both English and Swahili or in any other language. Literacy is based on the ability to read and write Swahili, English or both.

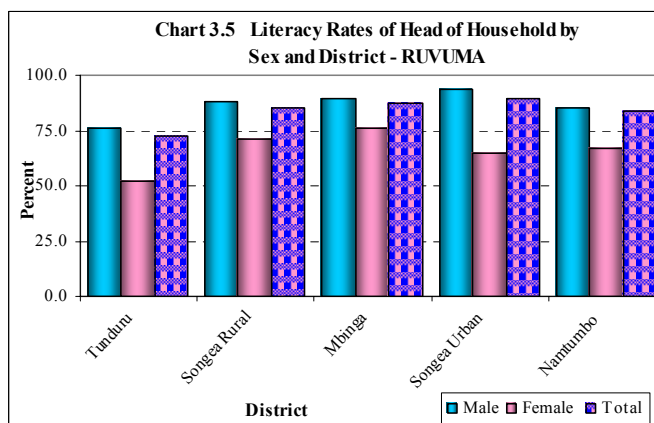
Literacy Level for Household Members

Ruvuma region had a total literacy rate of 75 percent. The highest literacy rate was found in Songea Urban district (83%) followed by Mbinga district (80%) and Songea Rural district (78%). Tunduru and Namtumbo districts had the lowest literacy rates of 64 and 75 percent respectively (Chart 3.4).



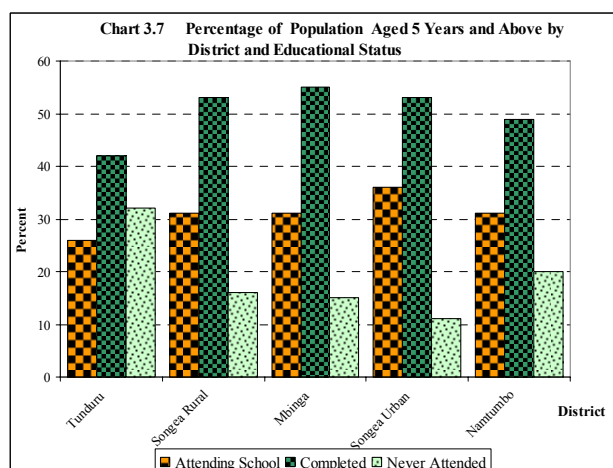
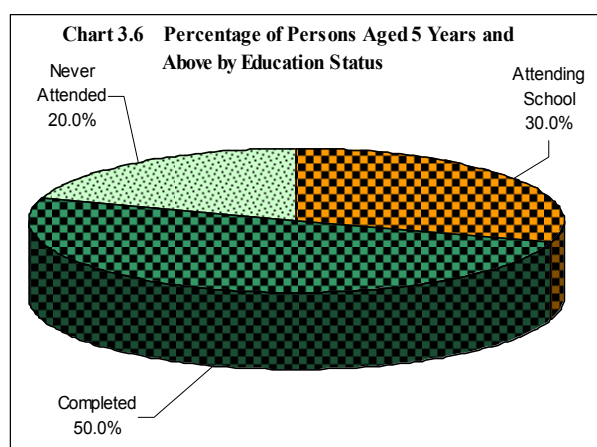
Literacy Rates for Heads of Households

The literacy rate for the heads of households in the region was 83 percent. The literacy rates for the male heads was 85% and that of female heads of households was 68 percent. The literacy rate of male heads was higher than that of female heads in all districts. The district with the highest literacy rate amongst heads of households was Songea Urban (89.4%) followed by Mbinga (87.6%), Songea Rural (85.2%), Namtumbo (83.8%) and Tunduru (72.8%) (Chart 3.5).



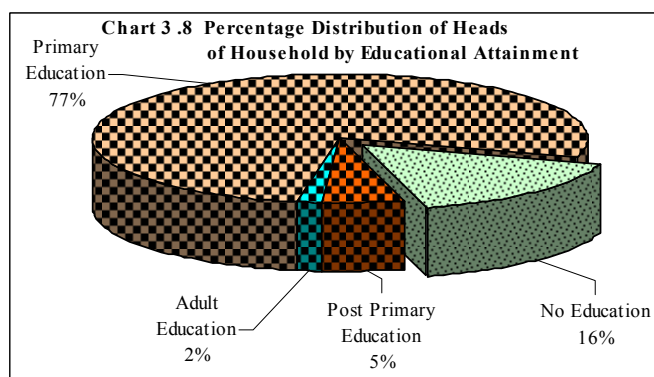
Educational Status

Information on educational status was collected from individual agricultural households. The results show that 50 percent of the population aged 5 years and above in agricultural households in the region had completed different levels of education and 30 percent were still attending school. Those who have never attended school were 20 percent (Chart 3.6).



Agricultural households in Mbinga district had the highest percentage (55%) of population aged 5 years and above who had completed different levels of education. It was followed by Songea Rural and Songea Urban districts each with 53 percent. Tunduru and Namtumbo districts had the lowest percentages of 42 and 49 respectively.

The number of heads of agricultural households with formal education in Ruvuma region was 157,638 (82%), those without education were 30,529 (16%) and those with only adult education were 3,007 (2%). The majority of heads of agricultural households (77%) had primary level education whereas only 5 percent had post primary education.

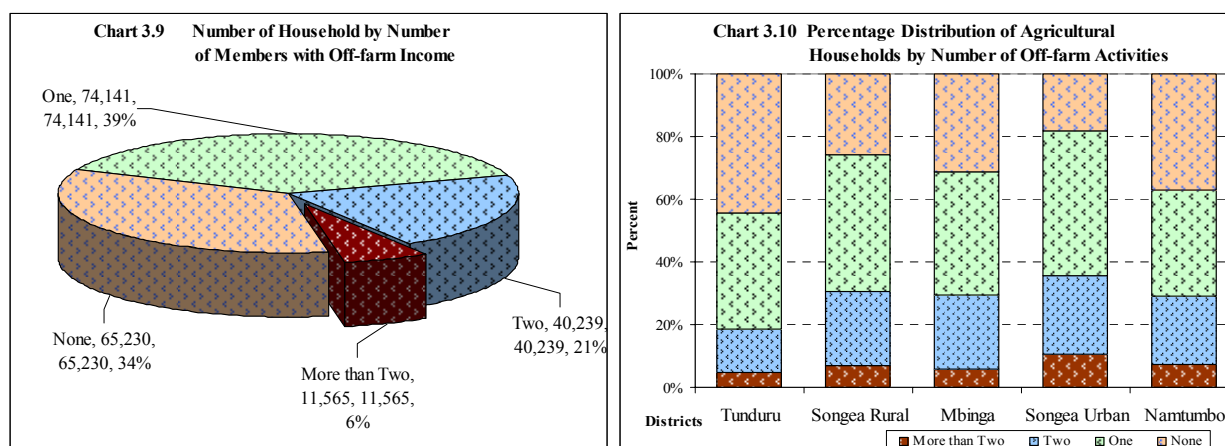


With regard to the heads of agricultural households with primary or secondary education in Ruvuma region, Mbinga had the highest percentages (43% for primary and 59% for secondary). This was followed by Tunduru (21% primary and 9%

secondary), Songea Rural (17% primary and 11% secondary) and Namtumbo (16% primary and 15% secondary). Songea Urban had the lowest percentage of heads of agricultural households with primary education (4%) and secondary education (6%) (Chart 3.8).

3.1.6 Off-farm Income

Off-farm income refers to cash generated from non-agricultural activities. This can be either from permanent employment (i.e., government, private sector or other), temporary employment or labourers. It also includes cash generated from working on farms belonging to other farmers. Off-farm income is important in agriculture households in Ruvuma with 66 percent of households having at least one member with off-farm income. In Ruvuma region, of the households with a



member engaged in off-farm income generating activities, 74,141 households (39%) had only one member aged 5 and above involved in only one off-farm income generating activity, 40,234 households (21%) had two members involved in off-farm income generating activities and 11,565 households (6%) had more than two members involved in off-farm income generating activities

Songea Urban district had the highest percentage of agriculture households with their members engaged in off-farm income generating activities (over 55% of total agriculture households in the district). Other districts with high percentages were Songea Rural (74%) and Mbinga (69%). Namtumbo and Tunduru districts had the lowest percentages of agriculture households with off-farm income (63% and 56% respectively). The district with the highest percent of agriculture households having more than one member involved in off-farm income was Songea Urban (36%). Tunduru district had very few households with more than one member having off-farm income (18%).

3.2 Land Use

Land area and planted area are two different types of area measurements. Land area refers to the physical area of land and is the same regardless of the number of crops planted on it in one year. Planted area is the total area of crops planted in a year and the area is summed if there were more than one crop on the same land per year. A number of terms are used in this section which requires defining for clarification as follows:

Land available refers to the area of land that has been allocated to smallholders through customary law, official title or other forms of ownership. Land available does NOT mean the total area of land that is designated as agriculture land in the

country, but the land that is available to smallholders given the location of villages and lack of access to more remote parcels of unused agriculture designated land.

Usable land refers to the available land minus the land that cannot be used e.g. bare rock, shallow soils, steep slopes, swamp areas etc. It does however include un-cleared bush, Utilised land refers to the land that was used during the year.

3.2.1 Area of Land Utilised

The total area of land available to smallholders was 799,230 ha. The Regional average land area utilised for agriculture per household was only 3.0 ha. This figure is above the national average which is estimated at 2.0 hectares. Seventy five percent of the total land available to smallholders was utilised. Only 25 percent of usable land available to smallholders was not used (Chart 3.11).

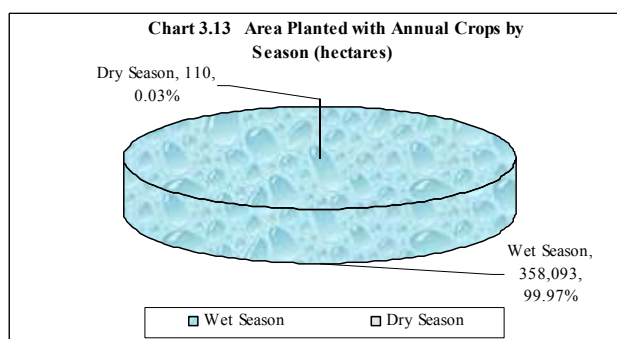
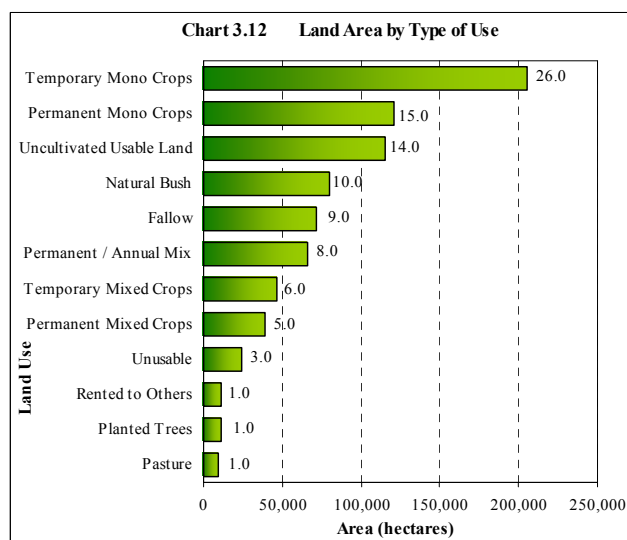
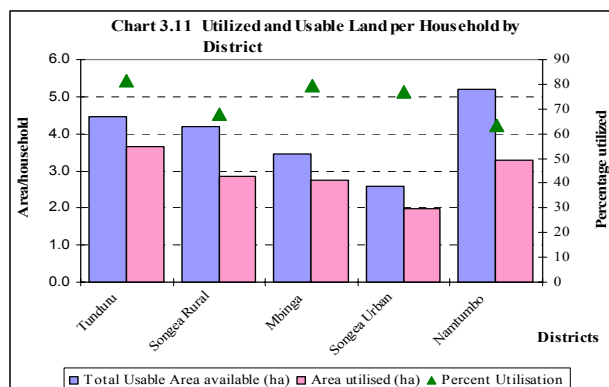
Large differences in land area utilised per household exist between districts with Songea Urban and Tunduru utilizing between 2.0 and 3.6 ha per household. The smallest land area utilised per household was found in Songea Urban (2.0 ha). The percentage utilized of the usable land per household was highest in Tunduru (82%) and lowest in Namtumbo (63%). (Map 3.7)

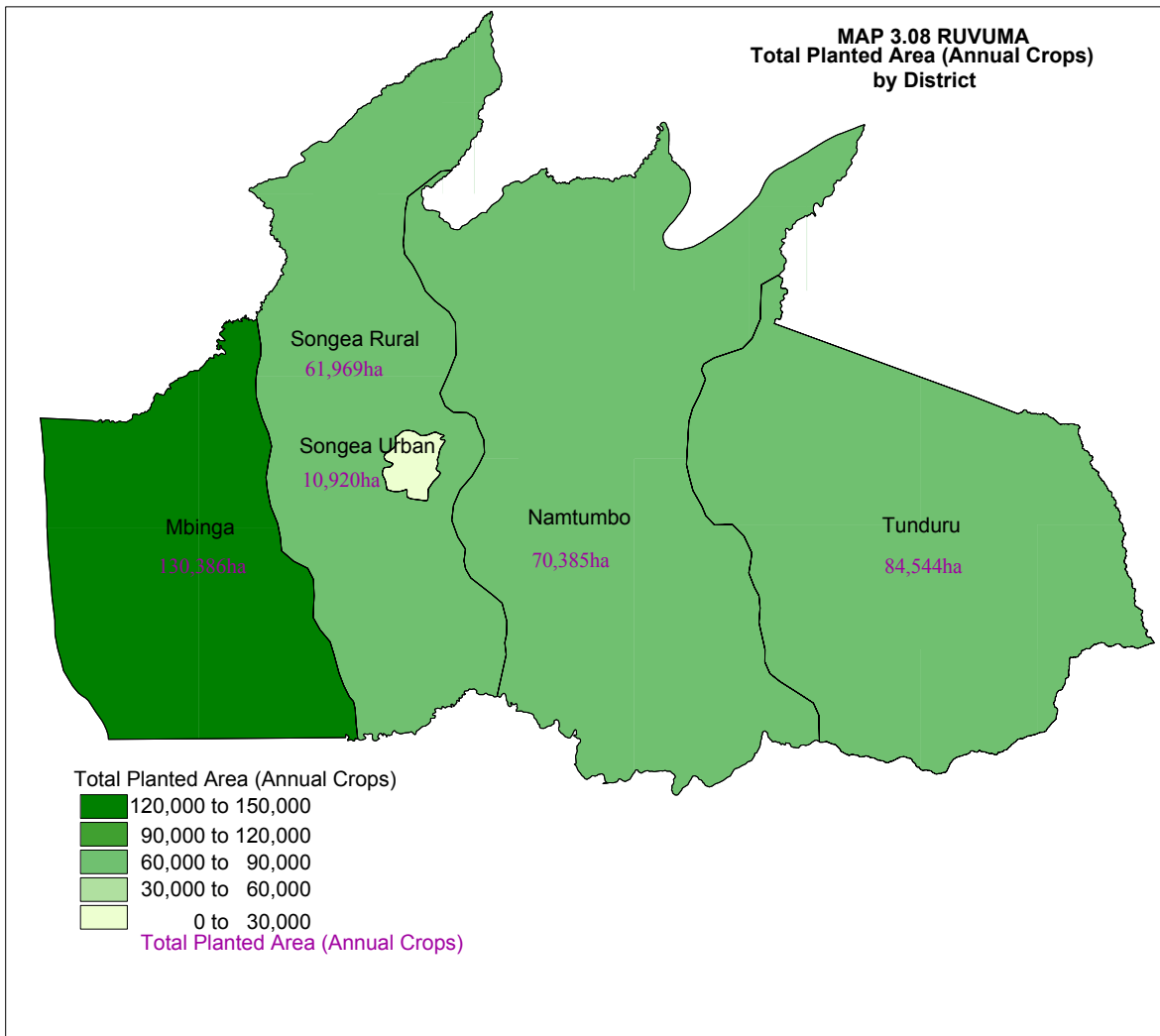
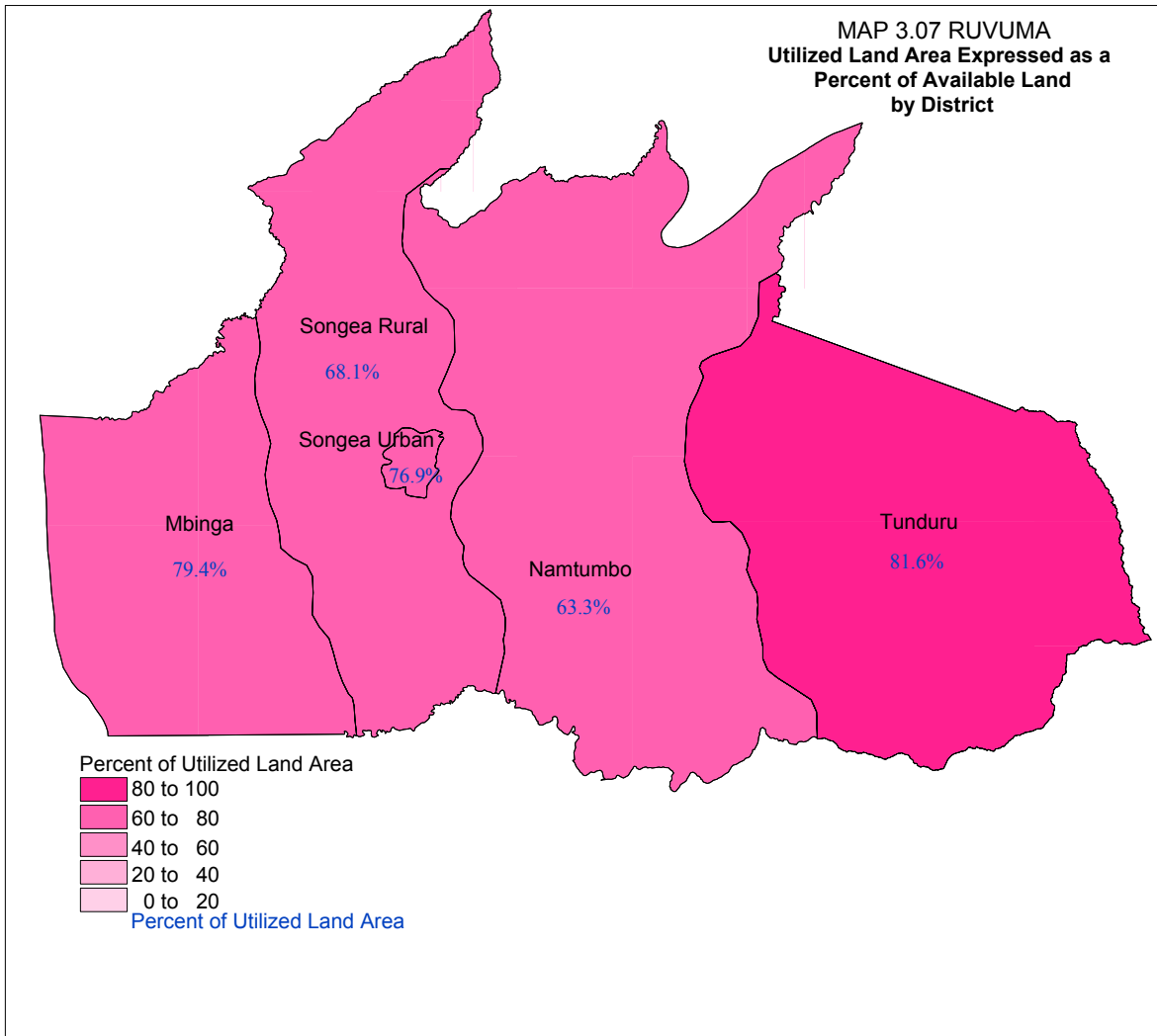
3.2.2 Types of Land Use

The area of land under temporary monocrops was 204,996 hectares (25.6% of the total land available to smallholders in Ruvuma), followed by permanent/monocrops (120,484 ha, 15.1%), uncultivable usable land (115,091 ha, 14.4%), natural bush (79,522 ha, 9.9%), area under fallow (71,887 ha, 9.0%), permanent/annual mixed crops (66,045, ha, 8.3%), temporary mixed crops (46,471 ha, 5.8%), permanent mixed crops (39,451, ha, 4.9%), unusable area (24,297 ha, 3.0%), area planted with trees (10,991 ha, 1.4%), area rented to others (10,766 ha, 1.3%), and area under pasture (9,228 ha, 1.2%).

3.3 Annual Crop and Vegetable Production

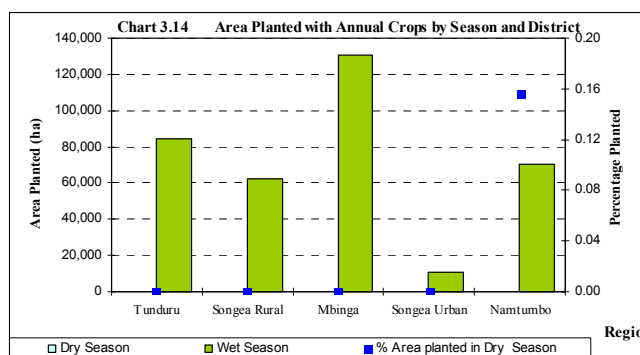
Ruvuma region has two seasons, namely the dry season (October to November) and the wet season (April to May). The quantity of crops produced in both seasons will be used as a base for comparison with the past surveys and censuses.





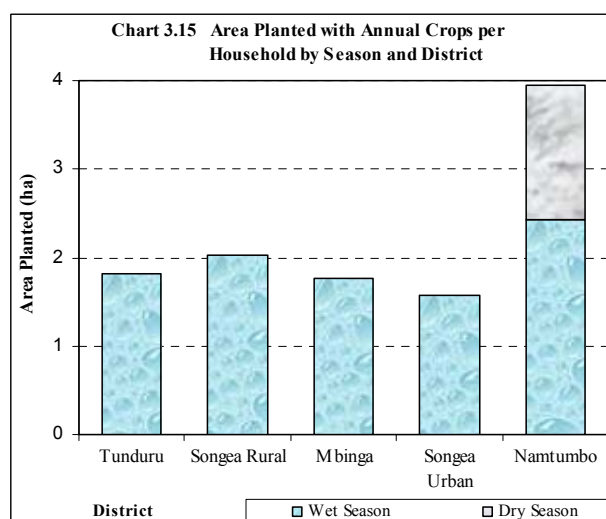
3.3.1 Area Planted

The area planted with annual crops and vegetables was 358,203 hectares out of which 110 hectares (0.03%) were planted during dry season and 358,093 hectares (99.97%) during wet season (Chart 3.13). Mbinga had the largest area planted with annual crop and vegetables (130,386ha, 36.4%) followed by Tunduru (84,544 ha, 23.6%), Namtumbo (70,385 ha, 19.6%), Songea Rural (61,969 ha, 17.3%) and Songea Urban (10,920 ha, 3.0%) (Chart 3.14 and Map 3.8). The average areas planted per household during the dry and wet seasons were 1.5 and 1.9 ha respectively. The districts with the largest planted area per household (the average of the two seasons) were Namtumbo (2.4 ha) followed by Songea Rural (2.0 ha) The district with the smallest average area planted was Songea Urban (1.6ha).



The planted area occupied by cereals was 194,211 ha (54.2% of the total area planted with annuals). This was followed by roots and tubers (94,522 hectares, 26.4%), pulses (39,697 hectares, 11.1%), oil seeds (17,464 hectares, 4.9%), cash crops (7,169 hectares, 2.0%) and fruit and vegetables (5,140 hectares, 1.4%).

The average area planted per household during the wet season in Ruvuma region was 1.9 hectares, however, there were small district differences. Namtumbo had the largest planted area per household (2.43 ha) followed by Songea Rural (2.02 ha) and Tunduru (1.81 ha). The smallest planted area per household was in Songea Urban (1.57 ha). In Namtumbo the area planted per household in the dry season represents 100 percent of the total planted area per household, whereas in the remaining districts the corresponding figure is 0 percent (Chart 3.15 and Map 3.9).

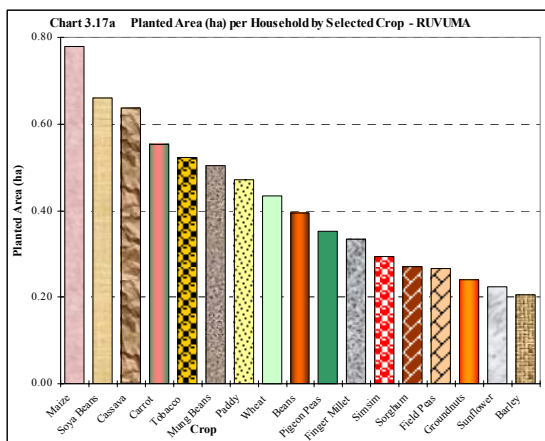
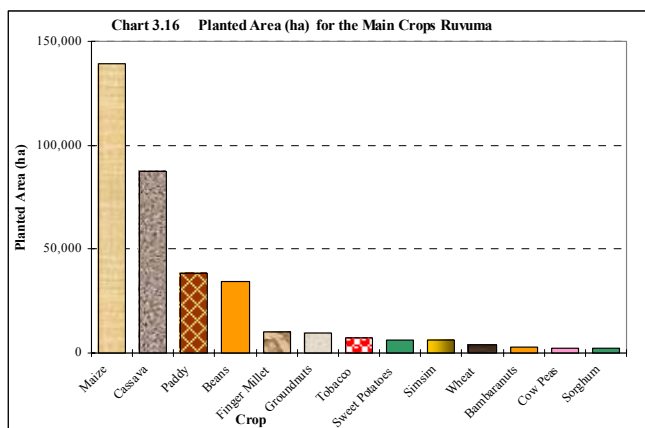


Analysis of the Most Important Crops

Results on crop production are presented in two different sections. The first section compares the importance of each crop regardless of whether it is annual or permanent. The second section contains an analysis on production based on crop types.

3.3.2 Crop Importance

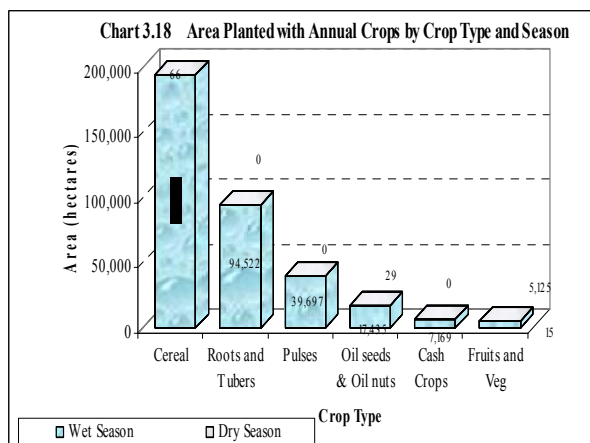
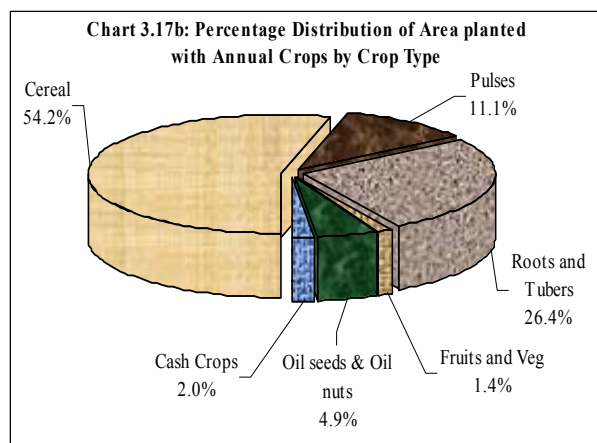
Maize was the dominant annual crop grown in Ruvuma region and it had a planted area 1.59 times greater than cassava, which had the second largest planted area. The area planted with maize constituted 39 percent of the total area planted with annual crops in the region. Other crops in order of their importance (based on area planted) were paddy, beans, finger millet, groundnuts, tobacco and sweet potatoes (Chart 3.16). Households that grew maize, soya beans and cassava had larger planted areas per household than other crops (Chart 3.17a).

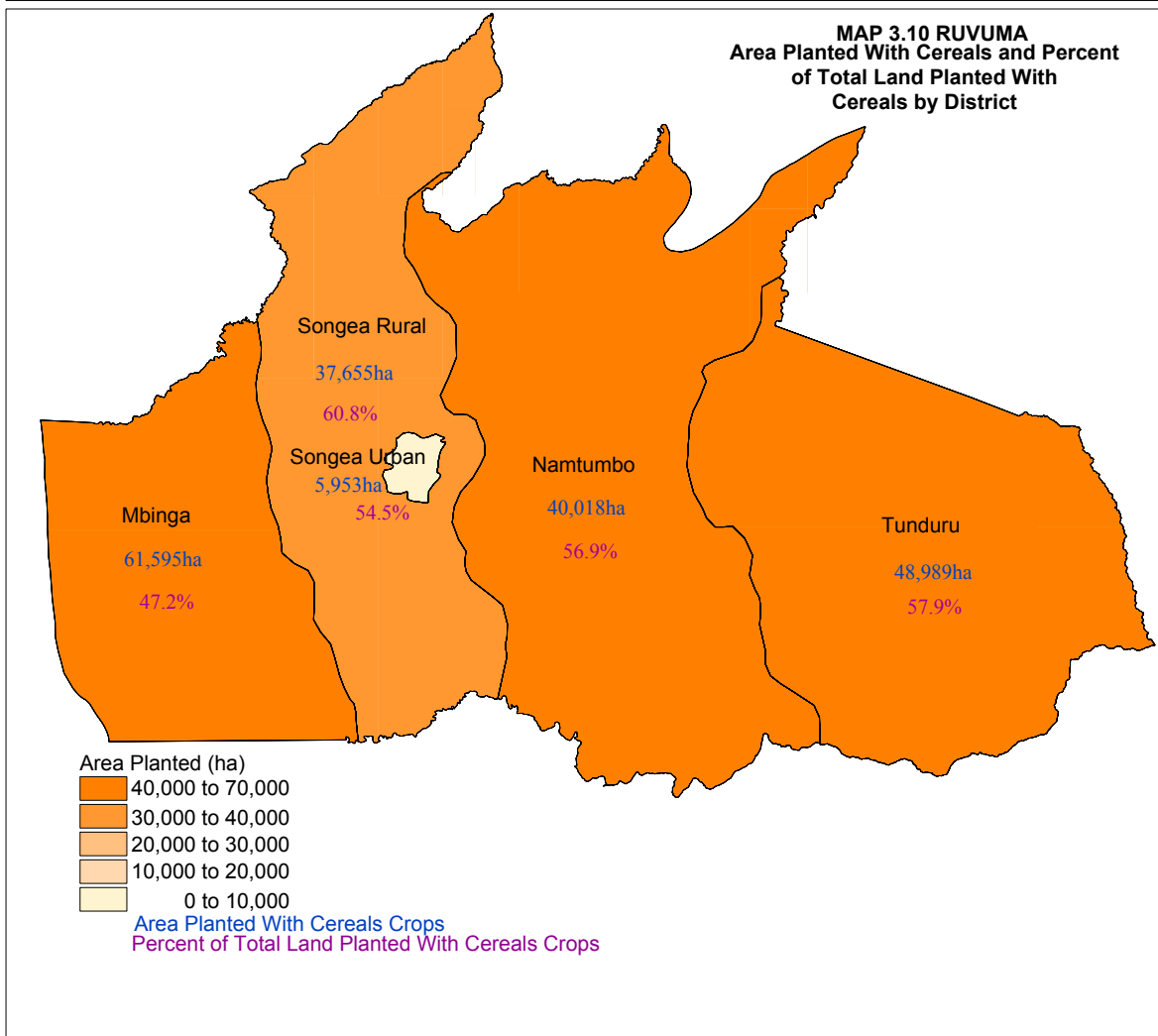
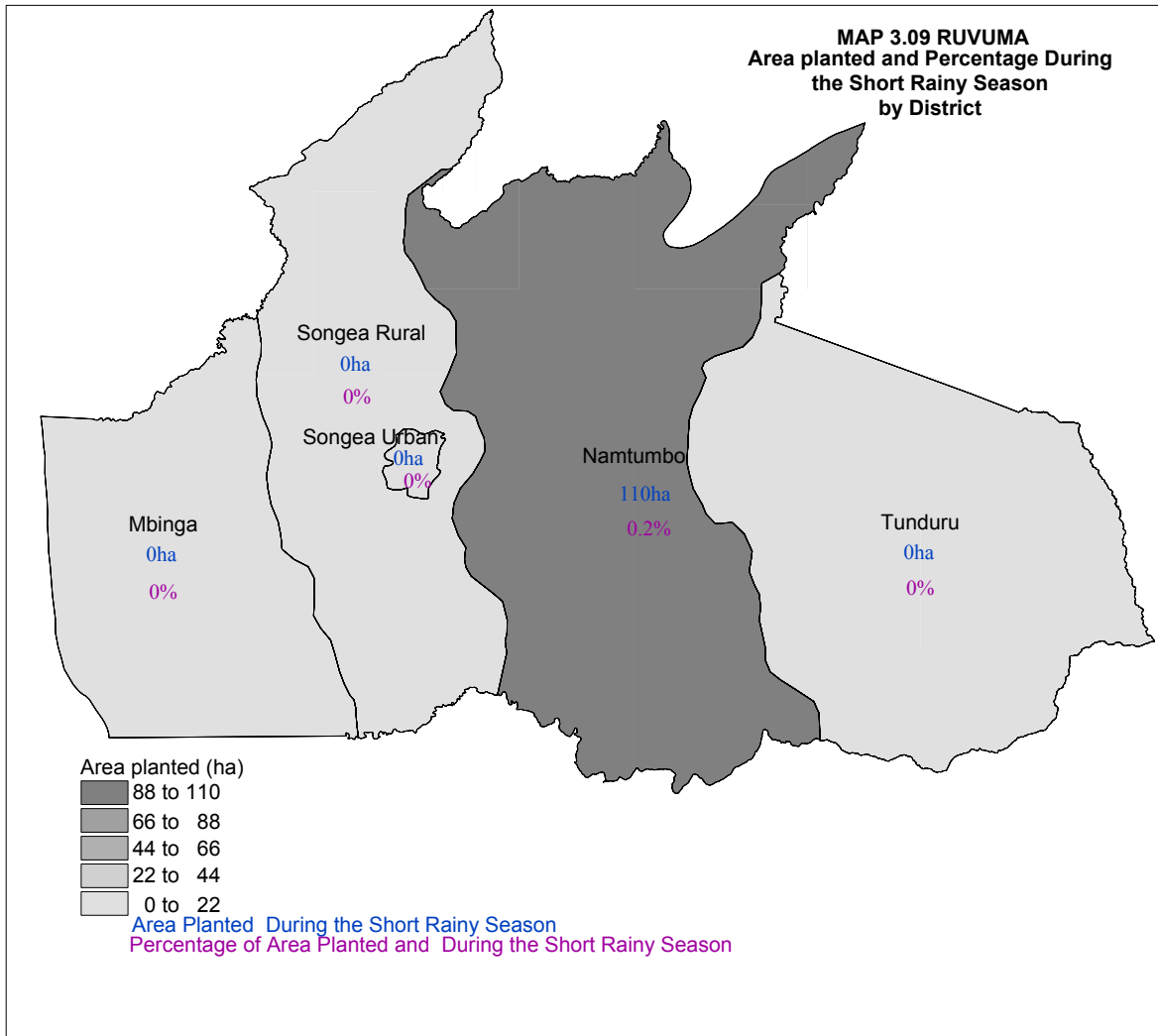


3.3.3 Crop Types

Cereals are the main crops grown in Ruvuma region. The area planted with cereals was 194,211 ha (54.2% of the total planted area), followed by root and tubers with 94,522 ha (26.4%), pulses 39,697 ha (11.1%), oil seeds 17,464 ha (4.9%), cash crops 7,169 ha (2.0%). Fruits and vegetables had the least planted area of about 5,140 ha (1.4%) (Chart 3.17b).

Cereals and pulses were the dominant crops in both seasons and other crop types were of minor importance in comparison. There was little difference in the proportions of the different crop types grown between seasons and because the production in the dry season was very small compared to that of the wet season, it is inappropriate to make detailed comparisons between the two seasons (Chart 3.18).





3.3.4 Cereal Crop Production

The total production of cereals was 227,514 tonnes. Maize was the dominant cereal crop with 179,312 tonnes which was 79 percent of total cereal production, followed by paddy (17%), finger millet (2.66%), wheat (0.73%), sorghum (0.42%) and barley (0.01%). Mbinga district had the largest planted area of cereals in the region (61,595ha) followed by Tunduru (48,989ha), Namtumbo (40,018ha), Songea Rural (37,655) and Songea Urban (5,953) (Map 3.10).

Table 3.2: Area, Production and Yield of Cereal Crops by Season

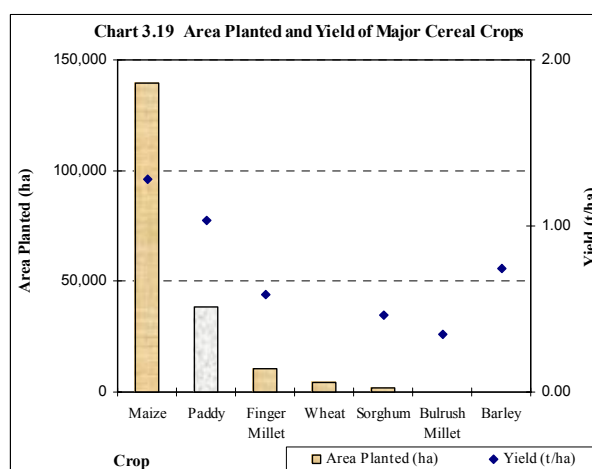
Crop	Dry season			Wet Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity harvested (tons)	Yield (Kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (Kg/ha)
Maize	37	29	790	139,505	179,283	1,285	139,541	179,312	1,285
Paddy	29	4	124	38,178	39,510	1,035	38,207	39,514	1,034
Sorghum	0	0	0	2,079	961	462	2,079	961	462
Bulrush Millet	0	0	0	38	13	345	38	13	345
Finger Millet	0	0	0	10,287	6,046	588	10,287	6,046	588
Wheat	0	0	0	4,036	1,652	409	4,036	1,652	409
Barley	0	0	0	22	16	741	22	16	741
Total	66	33		194,145	227,482		194,211	227,514	

The wet season accounted for 99.98 percent of the total cereals produced in both seasons. The area planted with maize during the dry season was 56.1 percent of the total area planted with cereals in that season followed by Paddy (43.9%) (Table 3.2).

The area planted with cereals during the dry and wet seasons was 194,211 ha out of which 66 ha (0.03%) were planted in the dry season and 194,145 ha (99.97%) were planted during the wet season. The wet season accounted for 99.98 percent of the total cereals produced in both seasons. The area planted with maize during the dry season was 56.1 percent of the total area planted with cereals in that season followed by Paddy (43.9%) (Table 3.2).

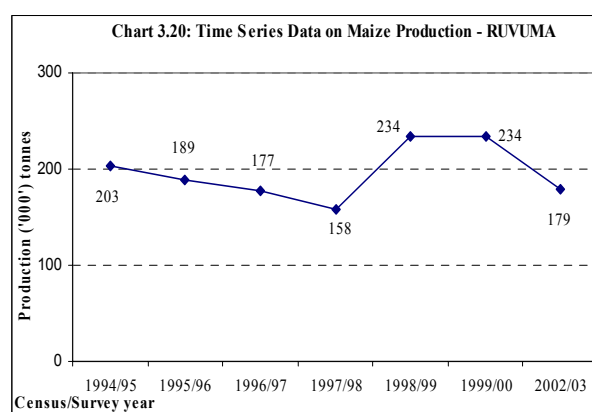
The area planted with maize was dominant and it represented 71.9 percent of the total area planted with cereal crops, then followed by paddy (19.67%), finger millet (5.30%), wheat (2.08), Sorghum (1.07%), bulrush millet (0.02%) and barley (0.01%) .

The yield of maize was 1,285 kg/ha, followed by paddy (1,034 kg/ha), barley (741 kg/ha), finger millet (588 kg/ha), sorghum (462 kg/ha), wheat (409 kg/ha) and bulrush (345 kg/ha). (Chart 3.19).



3.3.4.1 Maize

Maize dominates the production of cereal crops in the region. The number of households growing maize in Ruvuma region during was 178,837 (94% of the total crop growing households in the region). The total production of maize was 179,283 tonnes from a planted area of 139,505 hectares resulting in a yield of 1.3 t/ha.



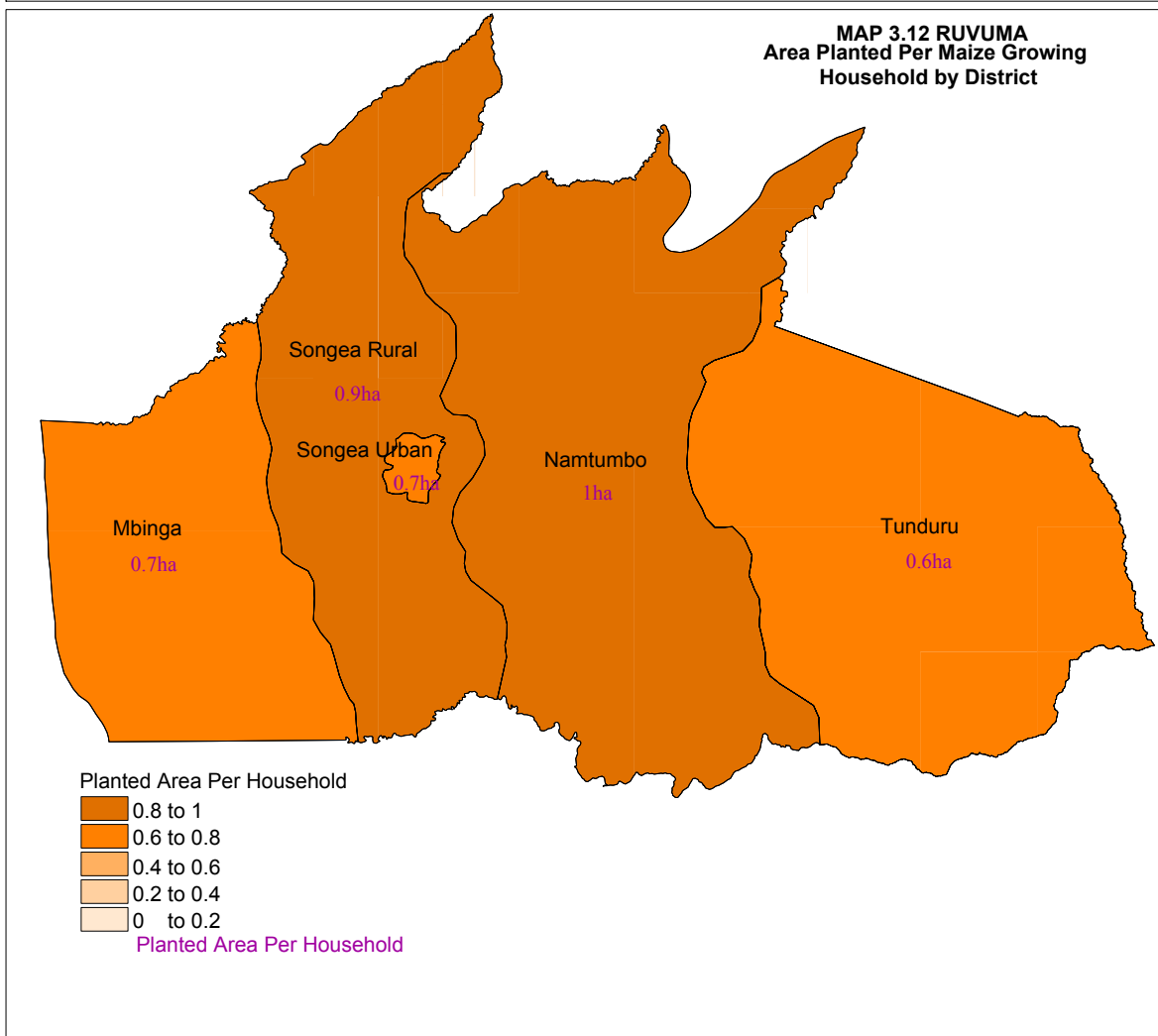
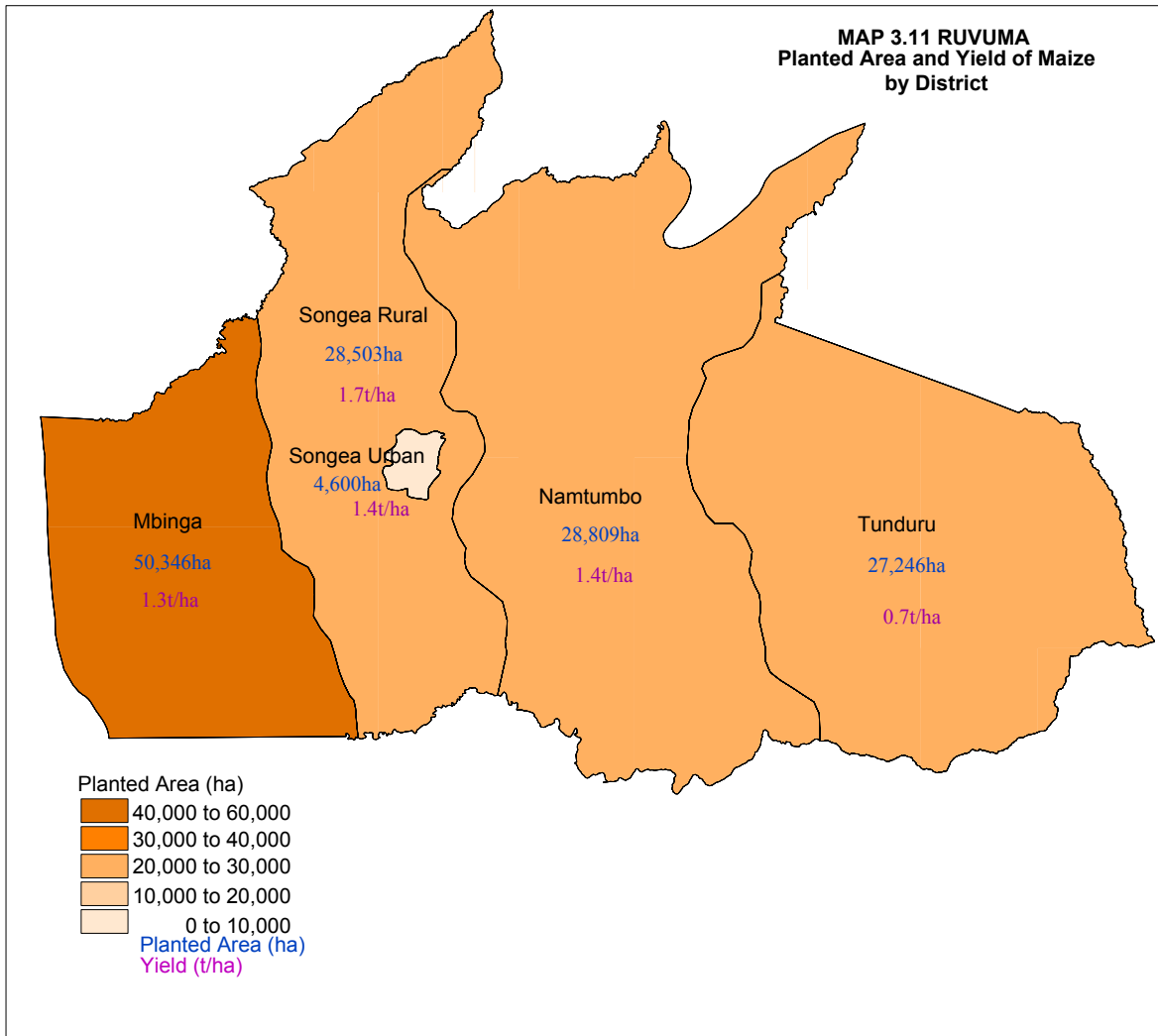
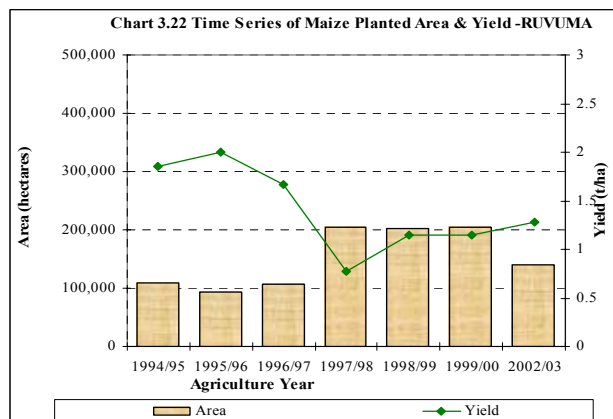
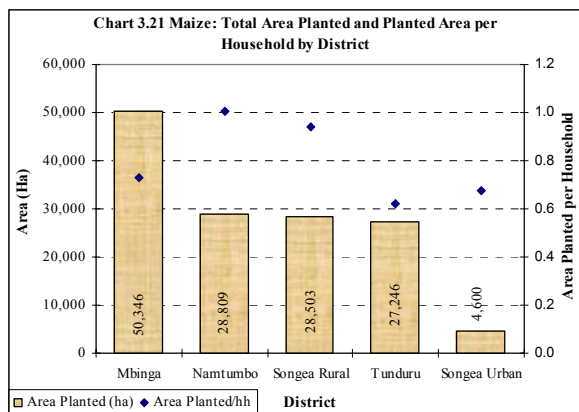


Chart 3.20 indicates production trend (in thousand metric tonnes) for maize. There was a sharp increase in maize production (48%) in 1999 after which the production leveled in 2000 and then it declined during the year 2003. The



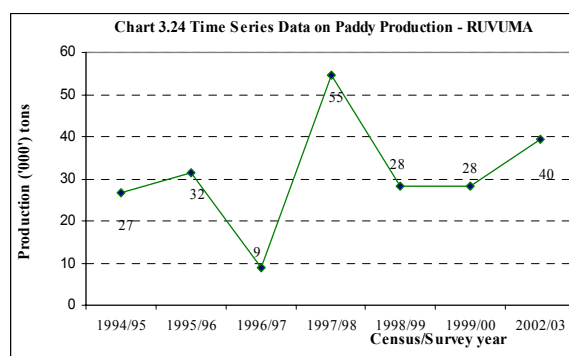
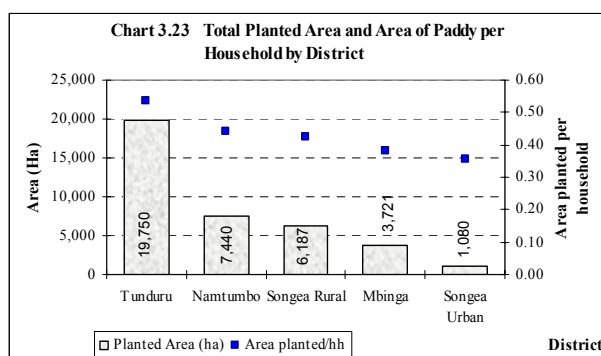
average area planted with maize per household was 0.8

hectares, however it ranged from 0.6 hectares in Tunduru district to 1.0 hectares in Namtumbo district (Map 3.11). In the wet season, Mbinga district had the largest area of maize (50,346 ha) followed by Namtumbo (28,809 ha), Songera Rural (28,503 ha), Tunduru (27,246 ha), and Songea Urban (4,600 ha) (Chart 3.21 and Chart 3.22)(Map 3.12).

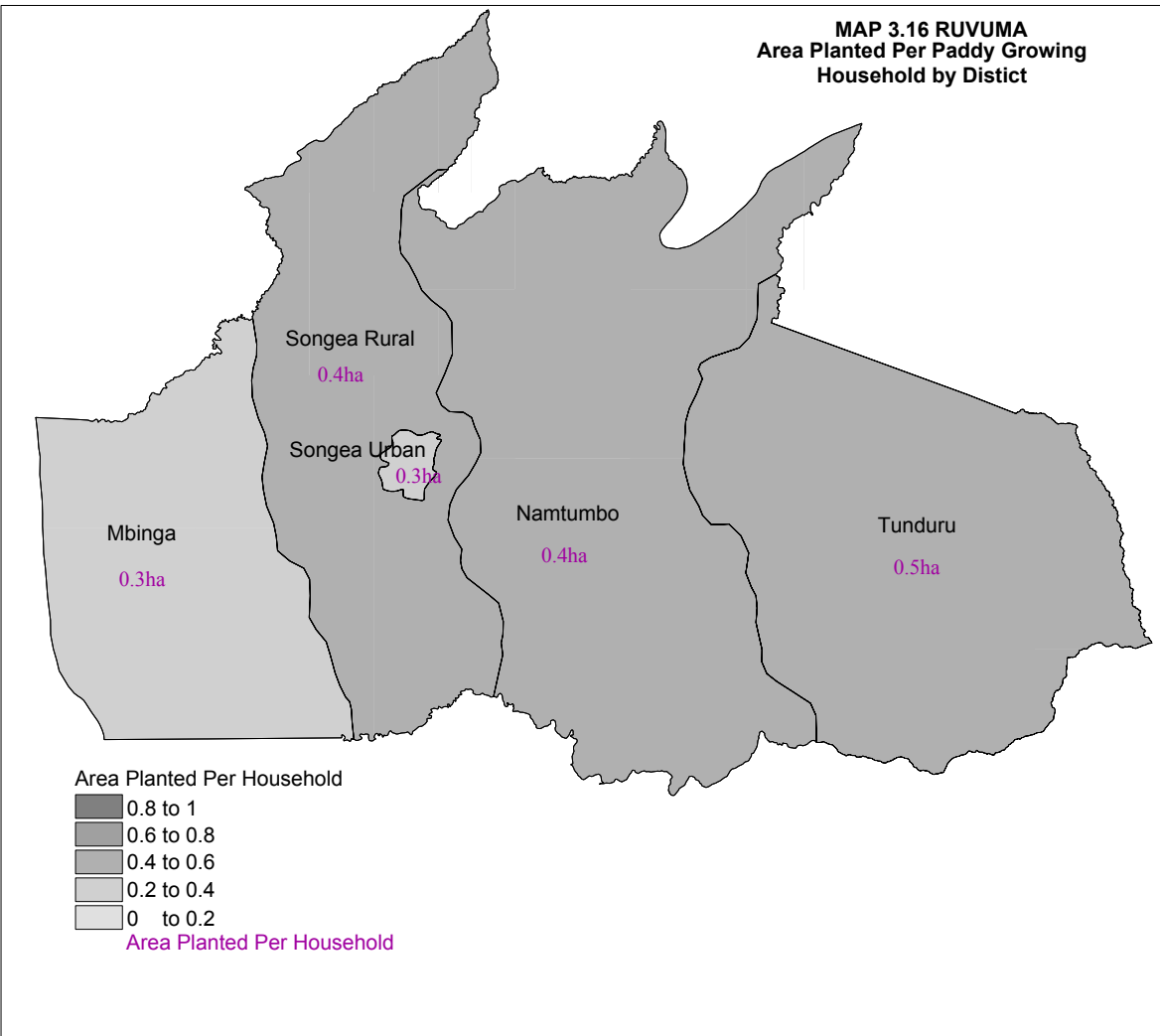
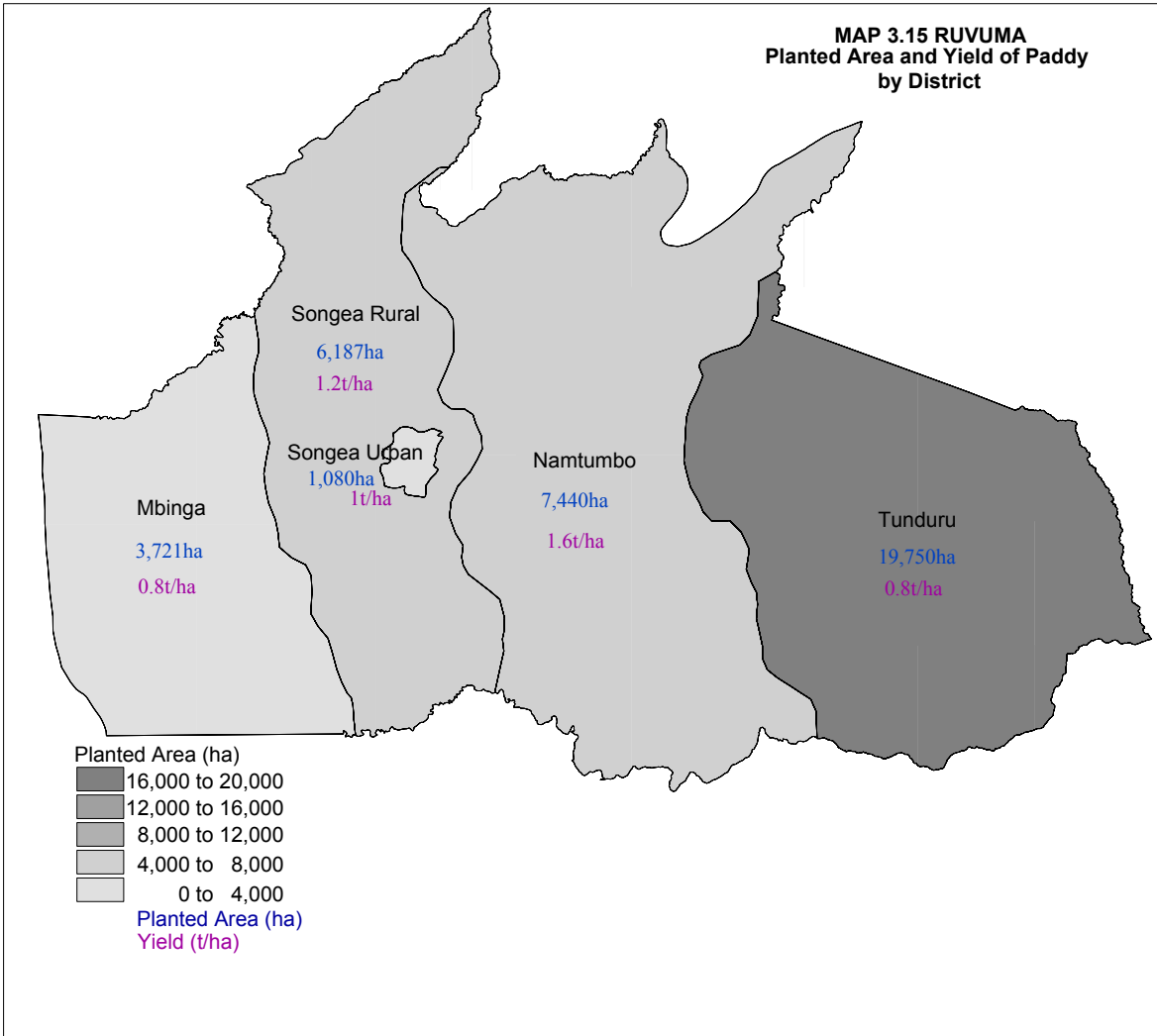
Charts 3.20 and 3.22 shows that, with exception of the year 2003, there was a positive relationship between the quantity of maize produced and the yield. The area planted with maize remained constant over the two different period whereby the first period was from 1995 to 1997 the second one which was higher than the first one started from 1998 to 2000. Then the area under production dropped from the year 2000 to 2003. However, the yield of maize has shown a decline over the period 1996 to 2003 (from 1.9 t/ha in 1995 to 1.3 t/ha in 2003) (Chart 3.22).

3.3.4.2 Paddy

Paddy was the second most important cereal crop in the region in terms of planted area. The number of households that grew paddy in Ruvuma region was 81,184. This represented 42 percent of the total crop growing households in Ruvuma region .



The total production of paddy was 39,510 tonnes from a planted area of 38,178 hectares resulting in a yield of 1.03 t/ha. The district with the largest area planted with Paddy was Tunduru (19,750 ha) followed by Namtumbo (7,440 ha), Songea Rural(6,187 ha), Mbinga (3,721 ha), and Songea Urban (1,080 ha) (Map 3.15). There were small variations in the average area planted per crop growing household among the districts with the areas ranging from 0.36 ha in Songea Urban to 0.53 ha in Tunduru (Chart 3.23 and Map 3.16).



There was a decline in the production of paddy from 1995/96 (32,000 tons) to 1996/97 (9,000 tons) there after a sharp rise in production from 1996/97 to 1997/98 (55,000 tons). Then a drop between 1997/98 and 1998/99 (28,000 tons) observed after that a constant production from 1998/99 to 1999/2000 (28,000 tons) followed by a rise to 2002/2003 (40,000 tons).

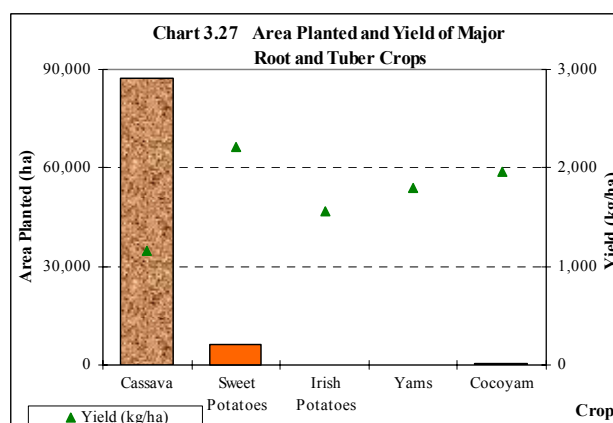
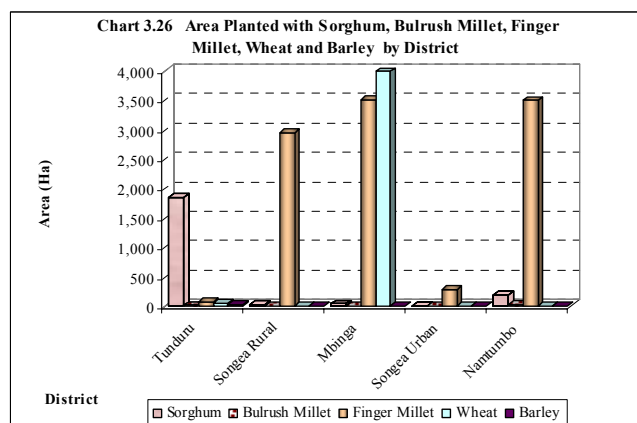
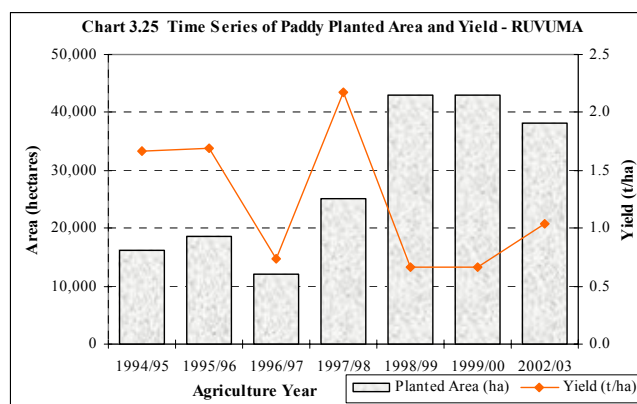
Charts 3.24 and 3.25 show that, whilst the yield of paddy has dropped dramatically over the previous 10 years, the quantity produced has increased and this has been due to a large increase in the area under production. The area planted with paddy remained constant over the period from 1995 to 1997 after which the area under production expanded rapidly until 1999 after which it declined to 38,178 ha in 2003. Over the period 1995 to 1997 the yield of paddy fluctuated at around 2t/ha. However, there was a decline in yield over the period 1997 to 1999 (down to 0.5 t/ha) and it has then increased up to 1.0 t/ha in 2003 (Chart 3.25).

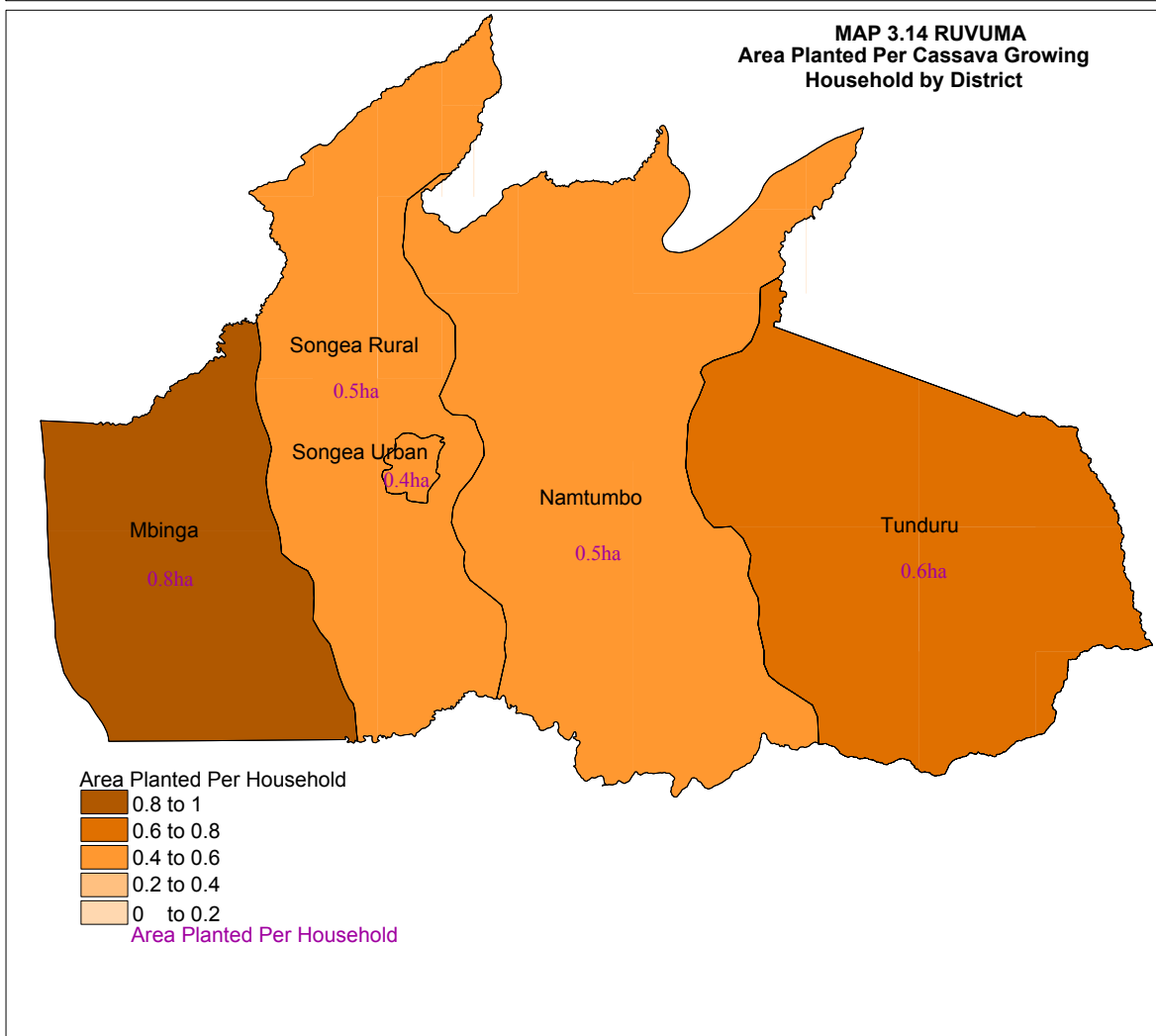
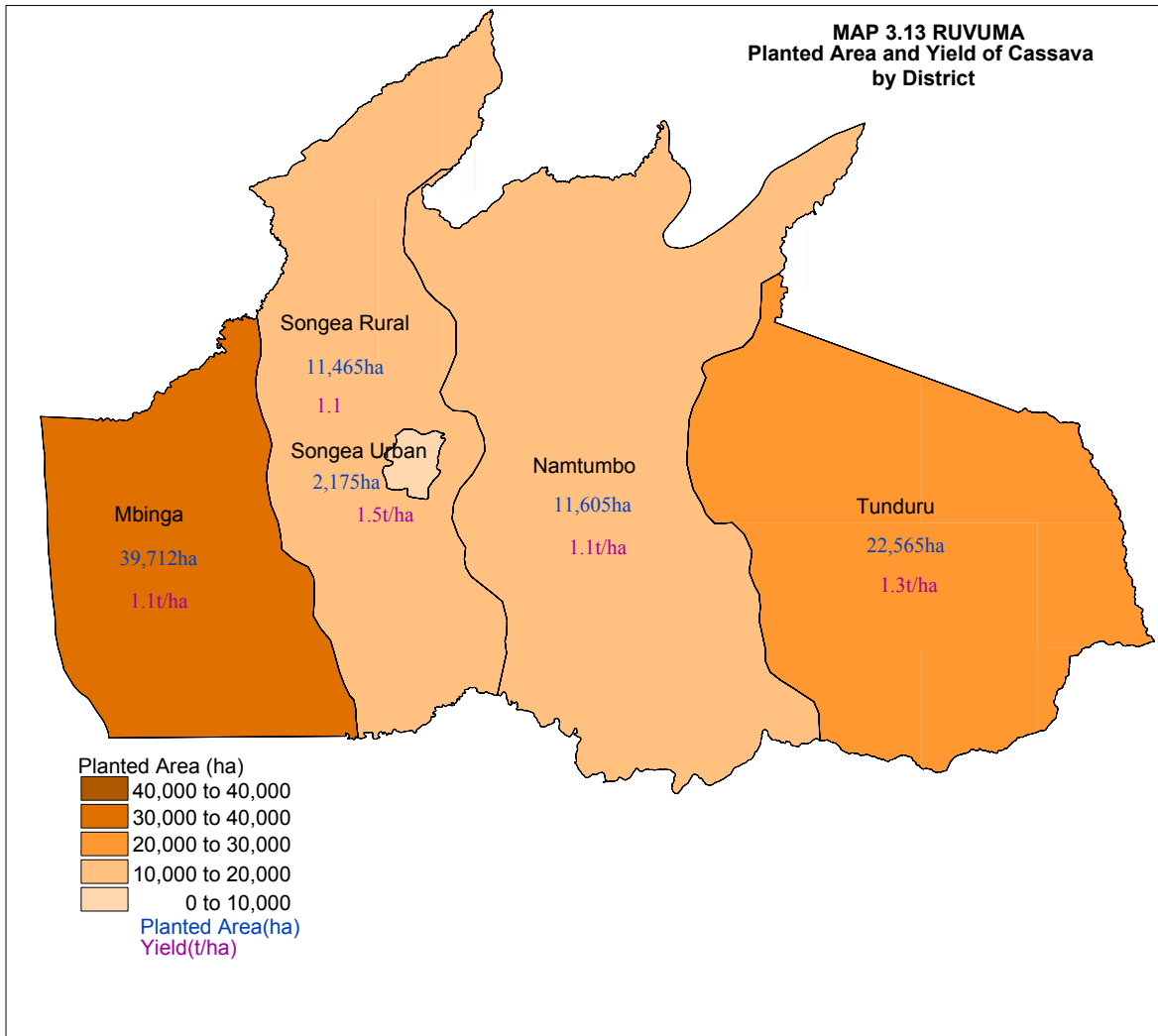
3.3.4.3 Other Cereals

Other cereals were produced in small quantities. Sorghum was produced in Tunduru (1,845 ha), Namtumbo (180 ha), Mbinga (38 ha) and Songea Rural (15 ha). Fingermillet was produced in Mbinga (3,504 ha), Namtumbo (3,497 ha), Songea Rural (2,941 ha), Songea Urban (272 ha) and Tunduru (72 ha). Wheat was produced in Mbinga (3,986 ha), Tunduru (43 ha) and Songea Rural (8 ha). Bulrush millet was produced in Tunduru (13 ha) and Namtumbo (25 ha) and barley was produced in Tunduru only (22 ha) (Chart 3.26).

3.3.5 Roots and Tuber Crops Production

The total production of roots and tubers was 117,187 tonnes. Cassava production was higher than that of any other root and tuber crop in the region with a total production of 101,965 tonnes representing 87.0 percent of the total root and tuber crops production. This was followed by Sweet potatoes with 13,950 tonnes (11%), coco yam (876t, 0.8%),





Irish potatoes (223t, 0.2%) and yams (173t, 0.1%) (Table 3.3). For the area under roots and tubers, the area planted with cassava was the largest in the region. Its planted area accounted for 92.6 percent of the area planted with roots and tubers, followed by sweet potatoes (6.7%), coco yams (0.5%), Irish potatoes (0.2%), and yams (0.1%).

Table 3.3: Area, Production and Yield of Root and Tuber Crops by Season

Crop	Dry Season			Wet Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)
Cassava	0	0	0	87,522	101,965	1,165	87,522	101,965	1,165
Sweet Potatoes	0	0	0	6,316	13,950	2,209	6,316	13,950	2,209
Irish Potatoes	0	0	0	143	223	1,559	143	223	1,559
Yams	0	0	0	96	173	1,802	96	173	1,802
Cocoyam	0	0	0	446	876	1,964	446	876	1,964
TOTAL	0	0	0	94,522	117,187		94,522	117,187	

It is difficult to determine the total planted area and production for the dry and wet seasons for roots and tubers as the total production of cassava has been reported under the wet season. However, there was no area planted with roots and tubers during the dry season hence no crop production.

Note: Cassava is produced in both the wet and dry season. However, it was not possible to separate cassava production in the different growing seasons as the growing period spans both seasons and even over a year in certain varieties. Because of this, cassava has been combined and is reported in the wet season only.

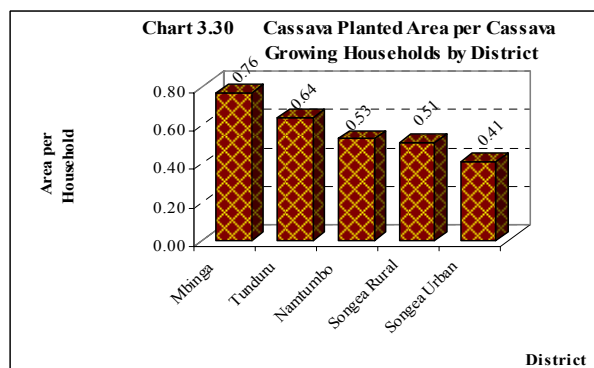
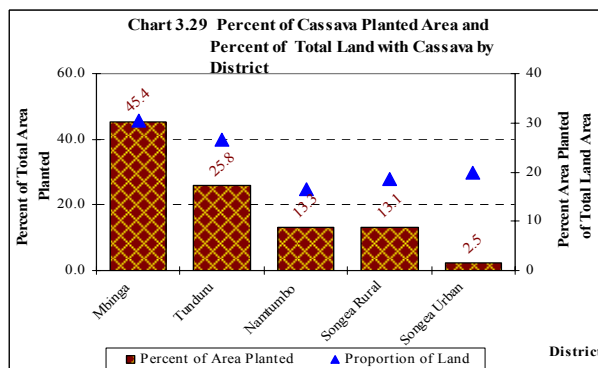
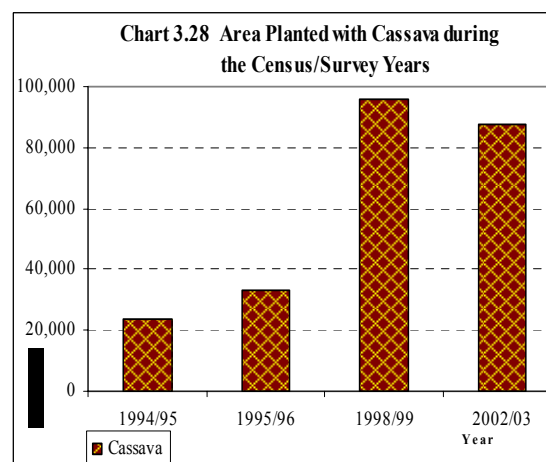
There was a significant increase in area planted with cassava and Irish potatoes from 1994/95 to 2002/03. The area for sweet potato remained more or less constant while there was a decrease in the area of yams from 1998/99 to 2002/03.

The total production of roots and tubers was estimated at 117,187 tonnes. Cassava with an estimate of 101,965 tonnes was the most important root and tuber crop. It accounted for 87.0 percent of the total roots and tubers production, followed by sweet potatoes with 13,950 tonnes (11.9%), coco yams with 876 tonnes (0.7%) Irish potatoes with 223 tonnes (0.2%) and yams with 173 tonnes (0.1%).

estimated yield was high for sweet potatoes (2.2 and t/ha) coco yams (2.0 t/ha), followed by yams (1.8 t/ha, Irish potatoes (1.6 t/ha and cassava (1.2 t/ha).

3.3.5.1 Cassava

The number of households growing cassava in the region was 137,409. This represents 72 percent of the total crop growing households in the region. The total production of cassava during the census year was 101,965 tonnes from a planted area of 87,522 hectares resulting in a yield of 1.2t/ha.

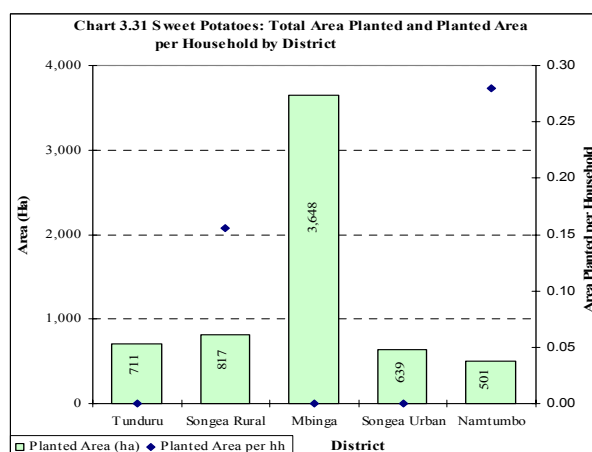


Previous censuses and surveys indicate that the area planted with cassava was increasing for the period 1995 to 1999. Since 1999 the area planted with cassava dropped from 96,039 ha in 1988 to 87,522 ha in 2003 (Chart 3.28). The area planted with cassava accounted for 24 percent of the total area planted with annual crops and vegetables in the census year. Mbinga district had the largest planted area of cassava (39,712 ha, 45.4% of the cassava planted area in the region), followed by Tunduru (22,565 ha, 25.8%), Namtumbo (11,605 ha, 13.3%), Songea Rural (11,465 ha, 13.1%) and Songea Urban (2,175 ha, 2.5%) (Map 3.15). However, the highest proportion of land planted with cassava, expressed as a percent of the total land area was in Mbinga district (30.5%). This was followed by Tunduru (26.7%), Songea Urban (19.9%), Songea Rural (18.5%) and Namtumbo (16.5%) (Chart 3.29).

The average cassava planted area per cassava growing household was 0.64 hectares. However, there were small district variations. The area planted per cassava growing household was largest in Mbinga (0.76 ha). This was followed by Tunduru (0.64 ha), Namtumbo (0.53 ha), Songea Rural (0.51 ha) and Songea Urban (0.41 ha) (Chart 3.30 and Map 3.16).

3.3.5.2 Sweet Potatoes

The number of households growing sweet potatoes in Ruvuma region was 35,326. The total production of sweet potatoes during the census year was 13,950 tonnes from a planted area of 6,316 hectares resulting in a yield of 2.2t/ha.



Mbinga District has the largest planted area for sweet potatoes (3,648 ha, 58%), followed by Songea Rural (817 ha, 13%), Tunduru (711, 11%), Songea Urban (639, 10%) and Namtumbo (501 ha, 8%) (Chart 3.31). Other root and tuber crops were of minor importance in terms of area planted compared to cassava and sweet potatoes.

3.3.6 Pulse Crops Production

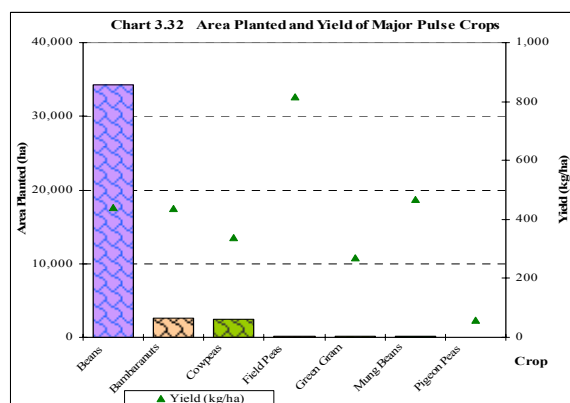
The total area planted with pulses was 39,697 hectares out of which 34,237 ha were planted with beans (86 percent of the total area planted with pulses), followed by bambaranuts (2,570 ha, 6.5%), cow peas (2,438 ha, 6.1%), field peas (189 ha, 0.5%), green gram (138 ha, 0.3%), mung beans (73 ha, 0.2%) and pigeon peas (51 ha, 0.1%). Chick peas were not cultivated in the region.

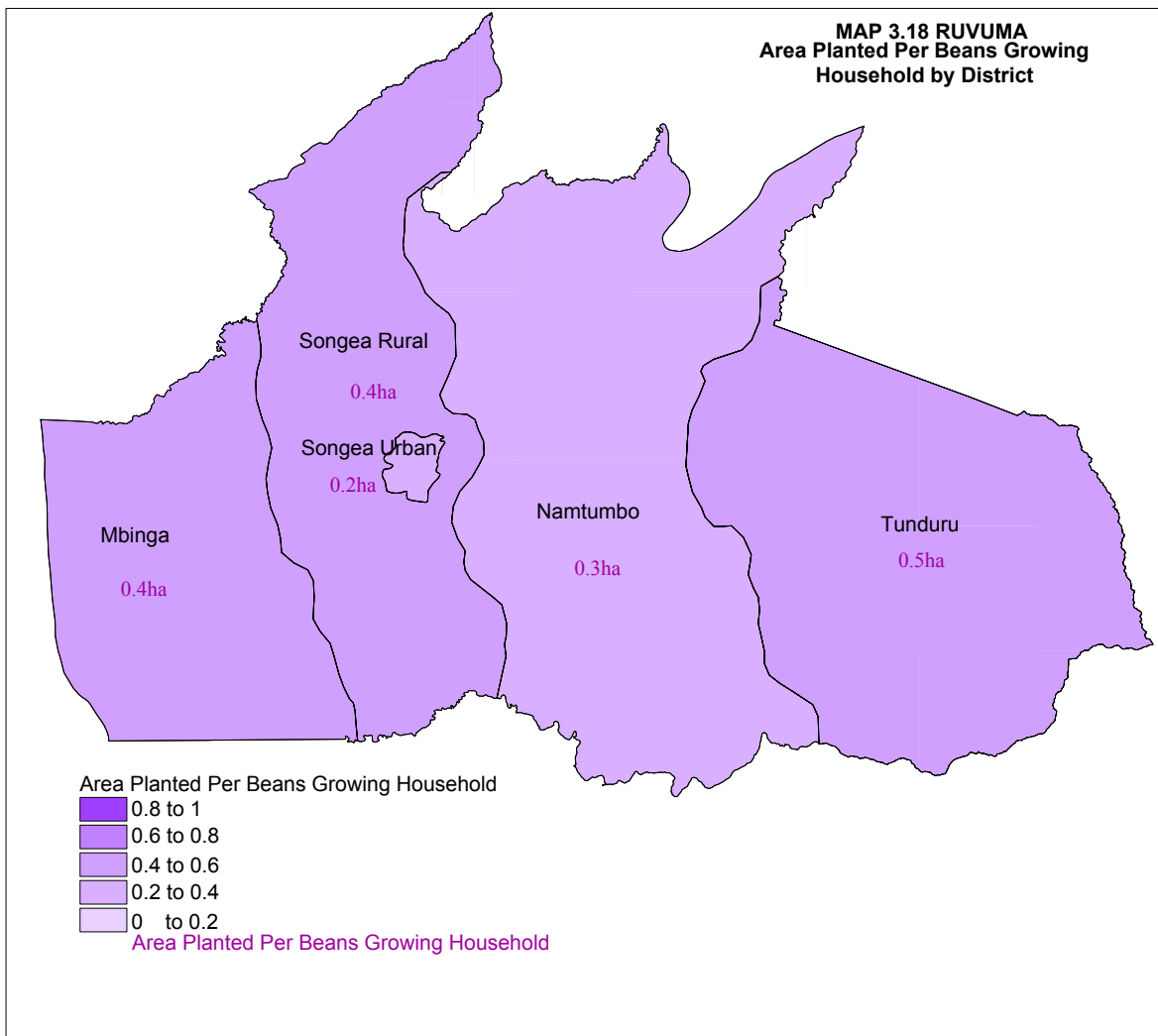
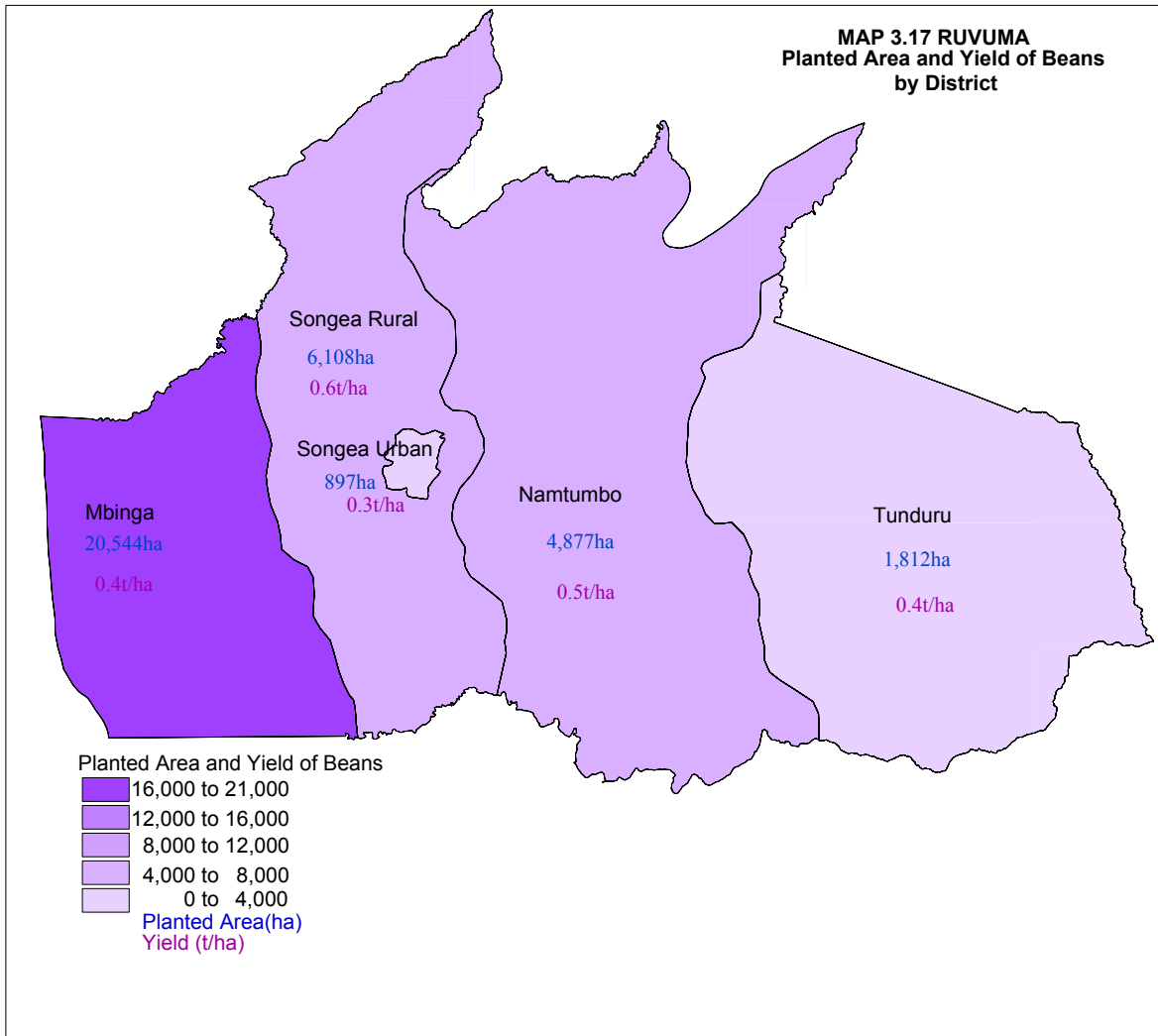
Pulses were not grown during the dry season.

The total production of pulses was 17,234 tonnes. Beans were the most cultivated crop producing 15,059 tonnes which accounted for 87 percent of the total pulse production. This was followed by bambaranuts (1,126t, 6.5%), cow peas (821t, 4.8%), field peas (154t, 0.9%), green gram and (each 37t, 0.2%), mung beans (34t, 0.1%) and pigeon peas (3t, 0.02%).

Table 3.4: Area, Production and Yield of Pulses by Season

Crop	Dry Season			Wet Season			Total		
	Area Planted (ha)	Quantity harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity harvested (tons)	Yield (kg/ha)
Mung Beans	0	0	0	73	34	466	73	34	466
Beans	0	0	0	34,237	15,059	440	34,237	15,059	440
Cowpeas	0	0	0	2,438	821	337	2,438	821	337
Green Gram	0	0	0	138	37	268	138	37	268
Pigeon Peas	0	0	0	51	3	59	51	3	59
Bambaranuts	0	0	0	2,570	1,126	438	2,570	1,126	438
Field Peas	0	0	0	189	154	815	189	154	815
TOTAL	0	0	0	39,697	17,234	0	39,697	17,234	0

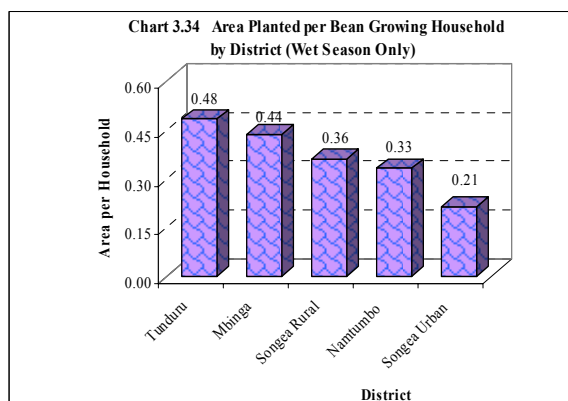
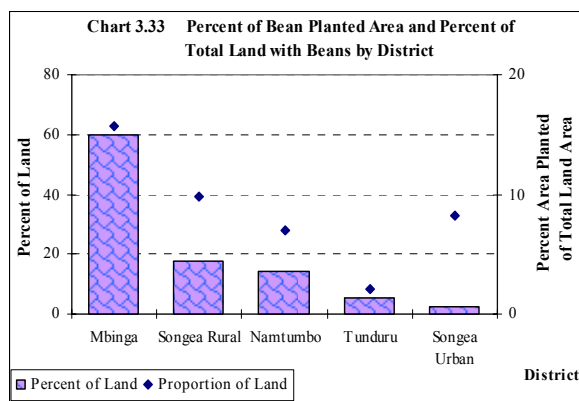




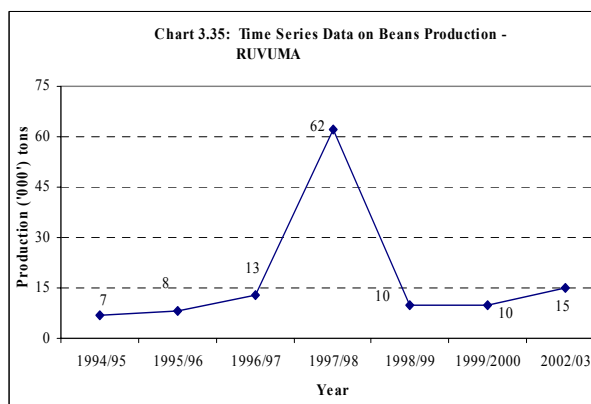
Chick peas were not grown in the region. Field peas had the highest yield of 815 kgs/ha. The yields of the rest of the pulses in kilograms per hectare were mung beans 466 kgs/ha, beans 440 kgs/ha, bambaranuts 438 kgs/ha, cowpeas 337 kgs/ha and green gram 268 kgs/ha. Pigeon peas had the lowest yield of 59 kgs/ha (Chart 3,32).

3.3.6.1 Beans

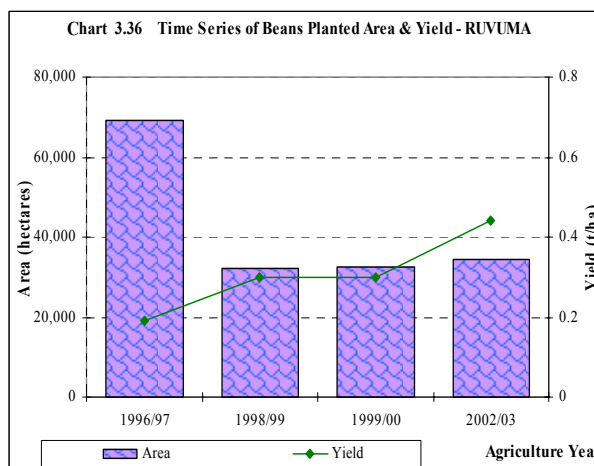
Beans dominated the production of pulse crops in the region. The number of households growing beans in Ruvuma region was 86,699. The total production of beans in the region was 15,059 tonnes from a planted area of 34,237 hectares resulting in a yield of 0.4 t/ha.



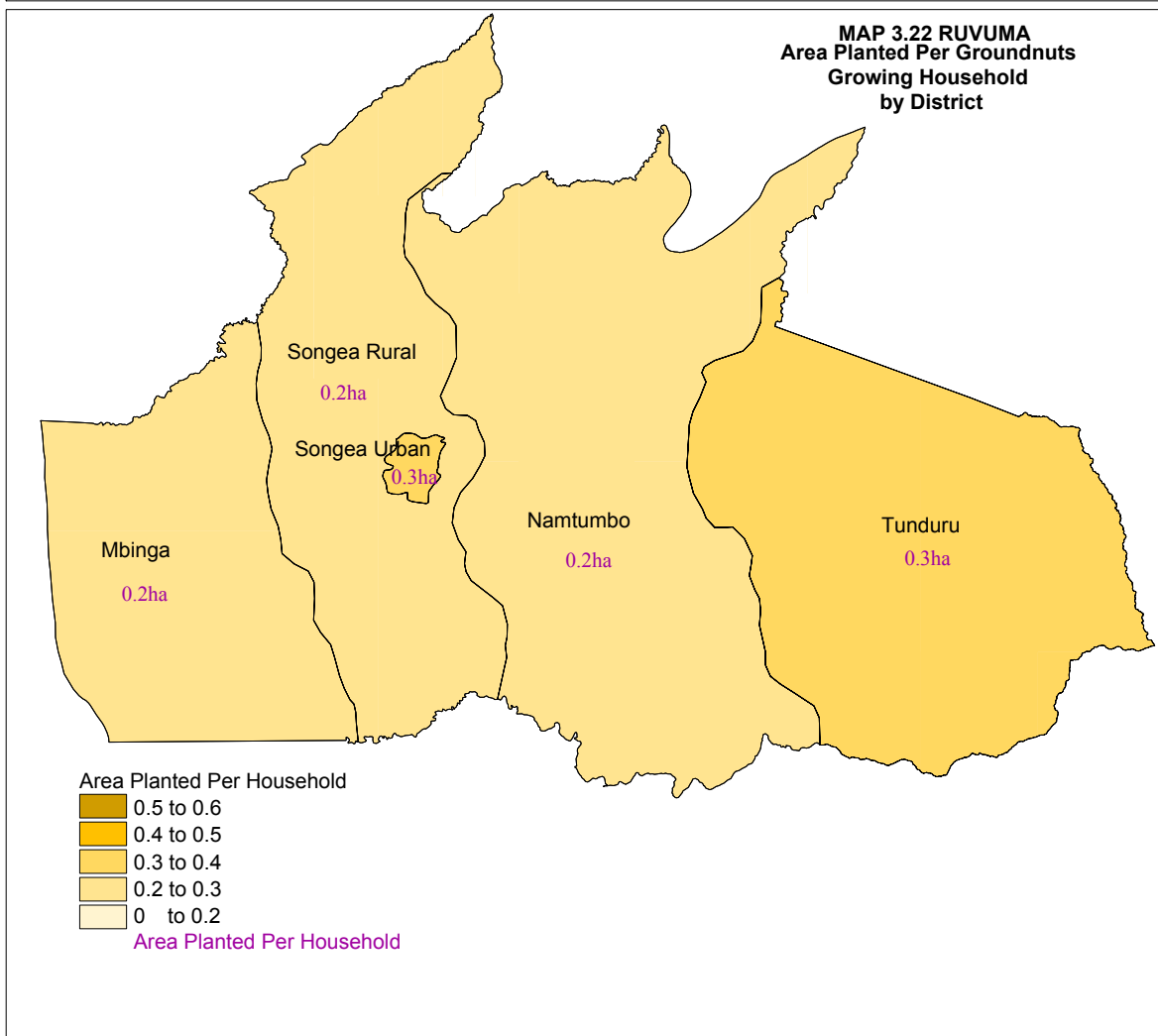
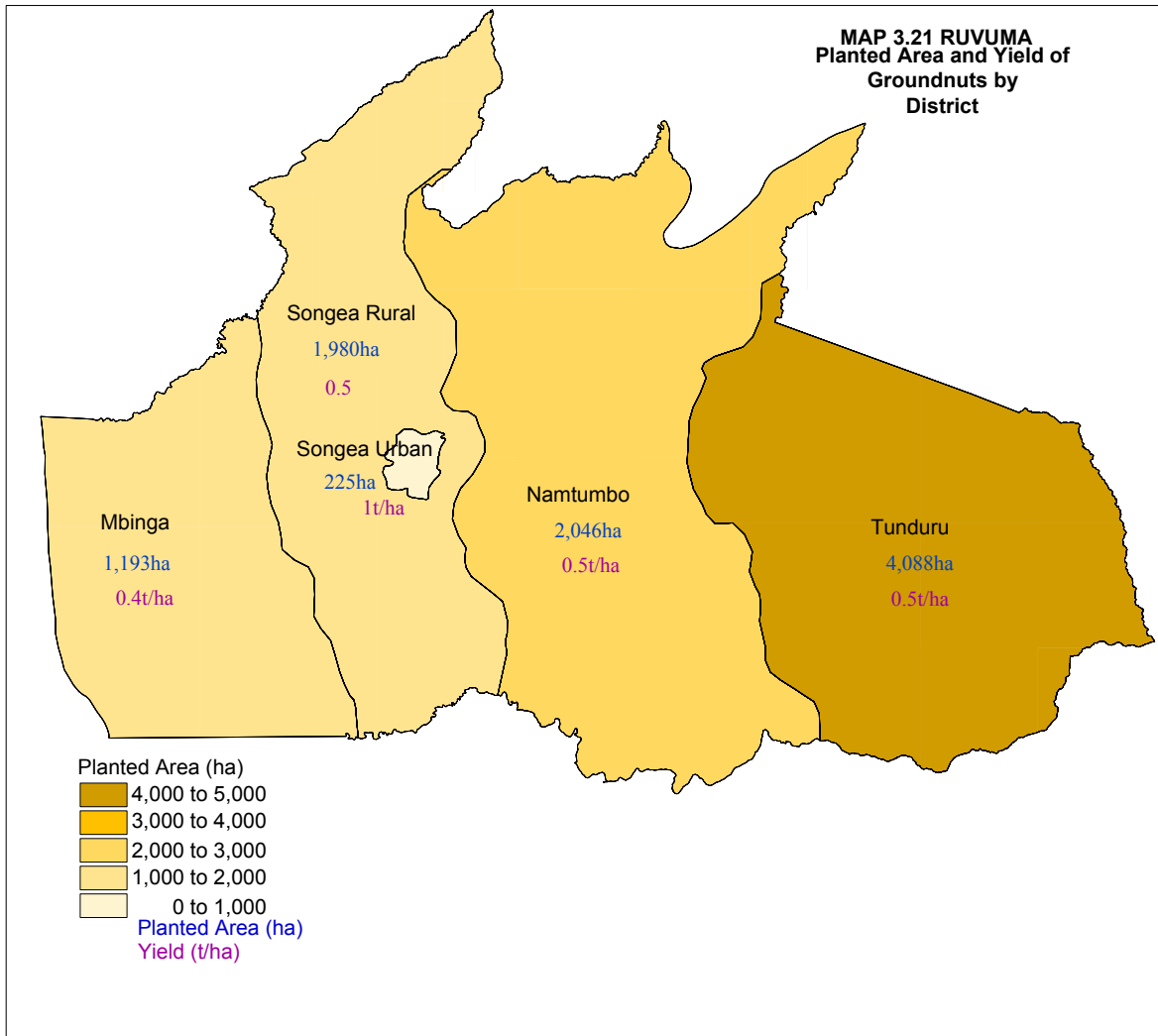
The largest area planted with beans in the region was in Mbanga district (20,544 ha, 60%) (Chart 3.33 and Map 3.17), however, the largest area planted with beans per household was in Tunduru district (0.48 ha) (Chart 3.34). The average area planted per household in the region during the wet season was 0.39 ha. The variations in area planted with beans for the rest of the districts were small with the areas ranging from 0.21 ha in Songea Urban district to 0.48 ha in Tunduru district (Map 3.18).



In Ruvuma region, bean production over the period 1995 to 2003 was normally about 10,000 tonnes except for the year 1998 where the production was highest at 62,267 tonnes (Chart 3.35).



Charts 3.35 and 3.36 show that, the yield of beans remained fairly constant the previous 8 years and the quantity produced also remained generally constant. The area planted with beans has decreased over the period from 1986 to 2003. Over the period 1997 to 2003 the yield of beans remained constant at around 0.3 t/ha. (Chart 3.36).



3.3.7 Oil Seed Production

The total production of oilseed crops was 7,752 tonnes planted on an area of 17,464 hectares. The total planted area of oilseeds in the wet season was 17,435 ha representing 99.8 percent of the total area planted with oil seeds.

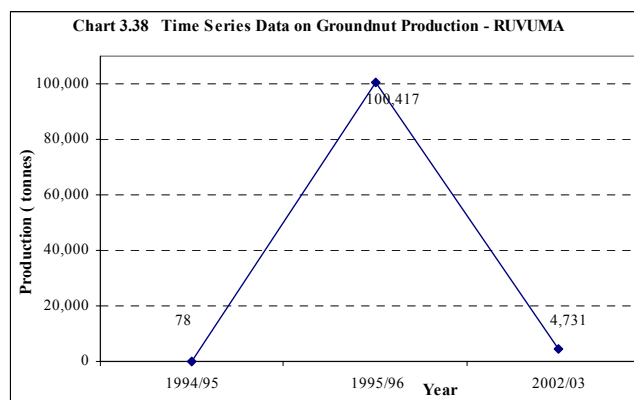
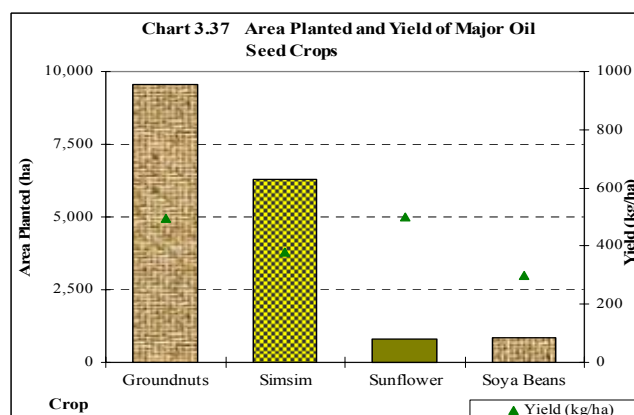
Table 3.5: Area, Quantity Harvested and Yield of Oil Seed Crops by Season

Crop	Dry Season			Wet Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)
Sunflower	0	0	0	796	399	501	796	399	501
Simsim	0	0	0	6,279	2,376	378	6,279	2,376	378
Groundnuts	29	1	49	9,532	4,731	496	9,561	4,732	495
Soya Beans	0	0	0	828	246	297	828	246	297
Total	29	1	49	17,435	7,751	496	17,464	7,752	495

Groundnuts were the most important oilseed crop with 9,561 ha (55% of the total area planted with oil seeds), followed by simsim (36%), soya beans (5%) and sunflower (5%) (Chart 3.37). The yield of sunflower was moderate (501 kg/ha). Groundnuts had a yield of 496 kg/ha, simsim of 378 kg /ha and soya beans 297 kg/ha. In terms of production, groundnuts was 4,732 tonnes and accounted for 61 percent of the total production of oil seeds, followed by simsim (31%), sunflower (5%) and soya beans (3%).

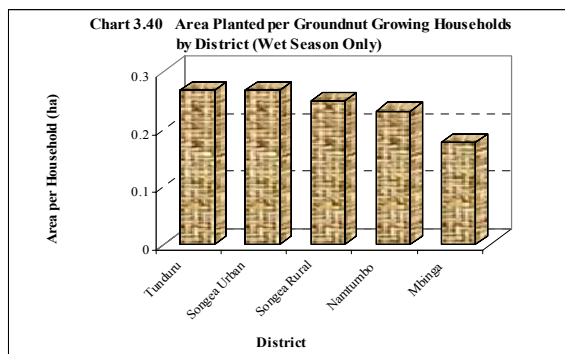
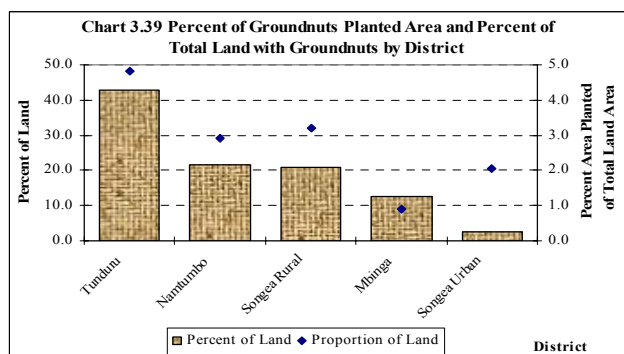
3.3.7.1 Groundnuts

The number of households growing groundnuts in Ruvuma region was only 39,911. The total production of groundnuts in the region was 4,732 tonnes from a planted area of 9,561 hectares resulting in a yield of 0.5 t/ha.



There was a sharp increase in production of groundnuts over the period 1995 to 1996, from 78 tonnes in 1994/95 to 100,417 tonnes in 1995/96, and then a sharp decrease to 4732 tonnes in 2002/03. The area planted dropped from 5,129.27 hectares in 1994/95 to 3,359.82 hectares in 1995/96 after which it increased to 9,561 hectares in 2002/03 (Chart 3.38).

With 4,117 ha of groundnuts, 43.1% of the total area planted with groundnuts in the region, Tunduru had the largest planted area followed by Namtumbo (2,046 ha, 21.2%), Songea Rural (1,980 ha, 20.8%), Mbinga (1,193 ha, 12.5%) and



Songea Urban (225 ha, 2.4%) (Map 3.19). The highest proportion of land with groundnuts was found in Tunduru (4.8%) followed by Songea Rural (3.2%), Namtumbo (2.9%), Songea Urban (2.1%) and Mbinga (0.9%) (Chart 3.39).

The largest area planted per groundnut growing household was found in Tunduru District (0.27 ha) and the smallest was in Mbinga (0.18). The range between the district with the highest and the lowest area planted per household indicates small variations in area planted among the districts (Chart 3.40 and Map 3.20).

3.3.8 Fruit and Vegetables

The collection of fruit and vegetables production data was difficult due to the small quantities produced per household. Most of the data presented here gives the production of smallholders who grew these crops as cash crops and not merely for household consumption. Most fruit production is from permanent crops and only water melon is reported as an annual crop in this section. The dry season is relatively not important for fruit and vegetables production since 0.3 percent of the total area planted with fruit and vegetables was during the dry season. For cabbage and amaranths below 3 percent of the planted area of each crop was during the dry season. Excluding cabbage and amaranths, the planted area for each crop in the wet season was abnormally large (100% of the total planted area was in the wet season).

Reliable historical data for the time series analysis of fruit and vegetables were not available.

The total production of fruits and vegetables was 16,087 tonnes. The most cultivated fruit and vegetable crop was the tomato crop with a production of 7,328 tonnes (46% of the total fruit and vegetables produced) followed by cabbage (4,119t, 26%) and onions (1,704t, 11%). The production of other fruit and vegetable crops were relatively small (Table 3.6).

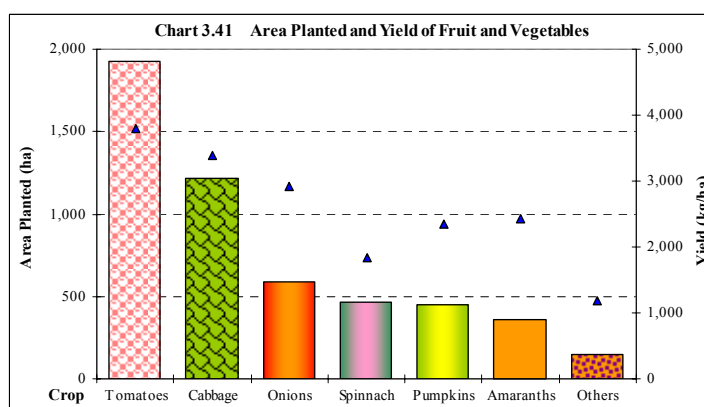
The yield of okra was 16,134 kg/ha, tomatoes (3,804 kg/ha), cabbage (3,386 kg/ha), and onion (2,915 kg/ha). Radish and carrot had yields of 267 and 294 kg/ha respectively (Chart 3.41).

3.3.8.1 Tomatoes

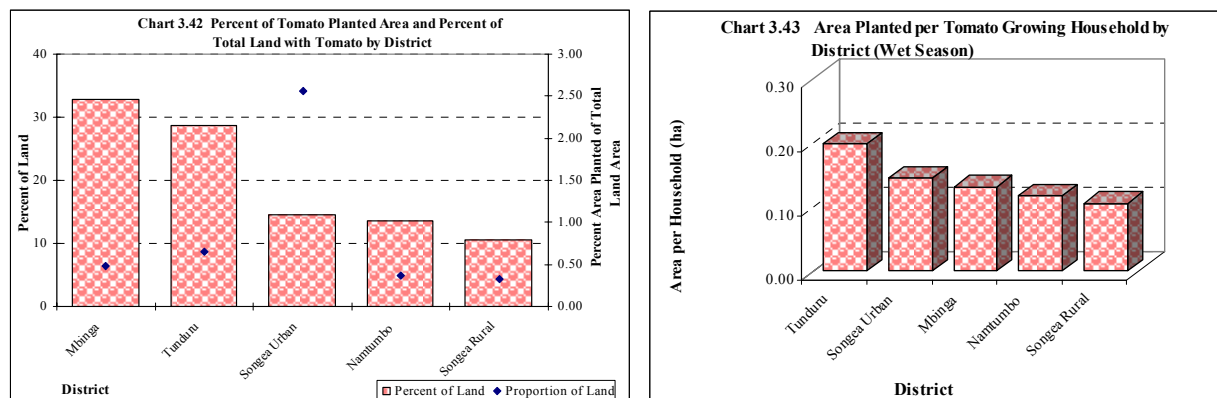
The number of households growing tomatoes in the region during wet was 13,606 and no household grew tomatoes during dry season. This represented 7.1 percent of the total crop growing households during wet season.

Table 3.6: Area, Production and Yield of Fruits and Vegetables by Season

Crop	Dry season			Wet Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity harvested (tons)	Yield (Kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (Kg/ha)
Okra	0	0	0	3	45	16,134	3	45	16,134
Radish	0	0	0	7	2	267	7	2	267
Onions	0	0	0	585	1,704	2,915	585	1,704	2,915
Cabbage	7	11	1,482	1,209	4,109	3,397	1,217	4,119	3,386
Tomatoes	0	0	0	1,927	7,328	3,804	1,927	7,328	3,804
Spinach	0	0	0	465	854	1,837	465	854	1,837
Carrot	0	0	0	72	21	294	72	21	294
Chillies	0	0	0	27	28	1,007	27	28	1,007
Amaranths	7	8	1,087	349	854	2,449	356	862	2,421
Pumpkins	0	0	0	448	1,048	2,342	448	1,048	2,342
Cucumber	0	0	0	22	27	1,219	22	27	1,219
Egg Plant	0	0	0	12	48	3,987	12	48	3,987
Total	15	19	16,087	5,125	16,068	16,068	5,139	16,087	16,087



Mbinga district had the largest planted area of tomatoes (33% of the total area planted with tomatoes in the region), followed by Tunduru (29%), Songea Urban (15%), Namtumbo (14%) and Songea Rural (10%) (Chart 3.42 and Map 21).

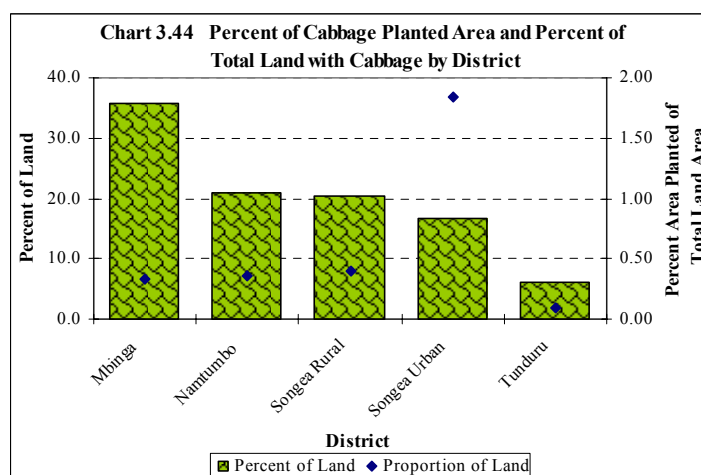


The highest proportion of land with tomatoes was found in Songea Urban, followed by Tunduru district. The rest of the districts had low proportions of land used for tomato production (Chart 3.42). The largest area planted per tomato growing household was found in Tunduru district (0.20 ha) followed by Songea Urban (0.15 ha), Mbinga (0.13 ha), Namtumbo (0.12 ha) and Songea Rural (0.08 ha) (Chart 3.43 and Map 3.22). The total area planted with tomatoes accounted for 0.5 percent of the total area planted with annual crops and vegetables during the dry and wet seasons.

3.3.8.2 Cabbage

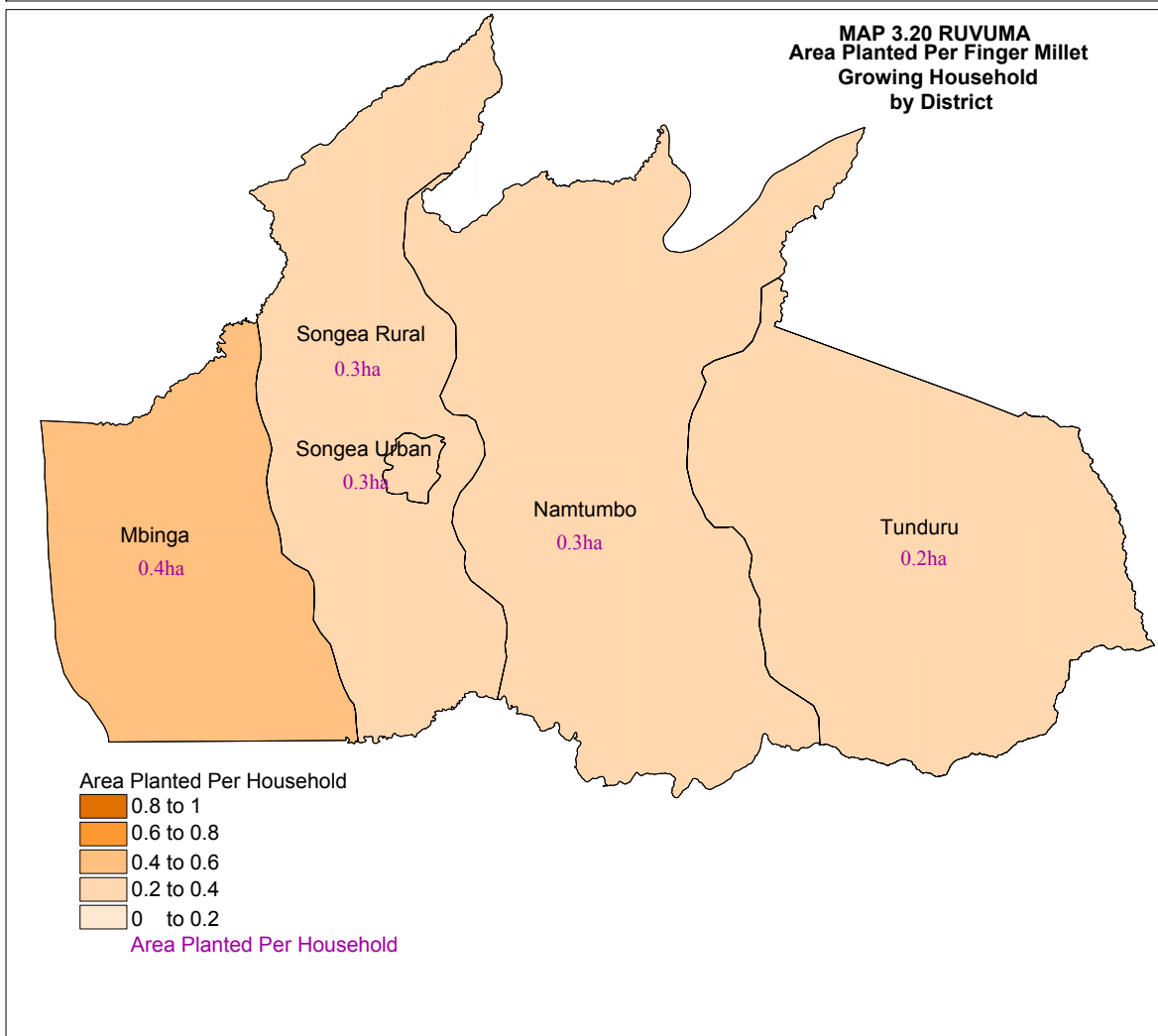
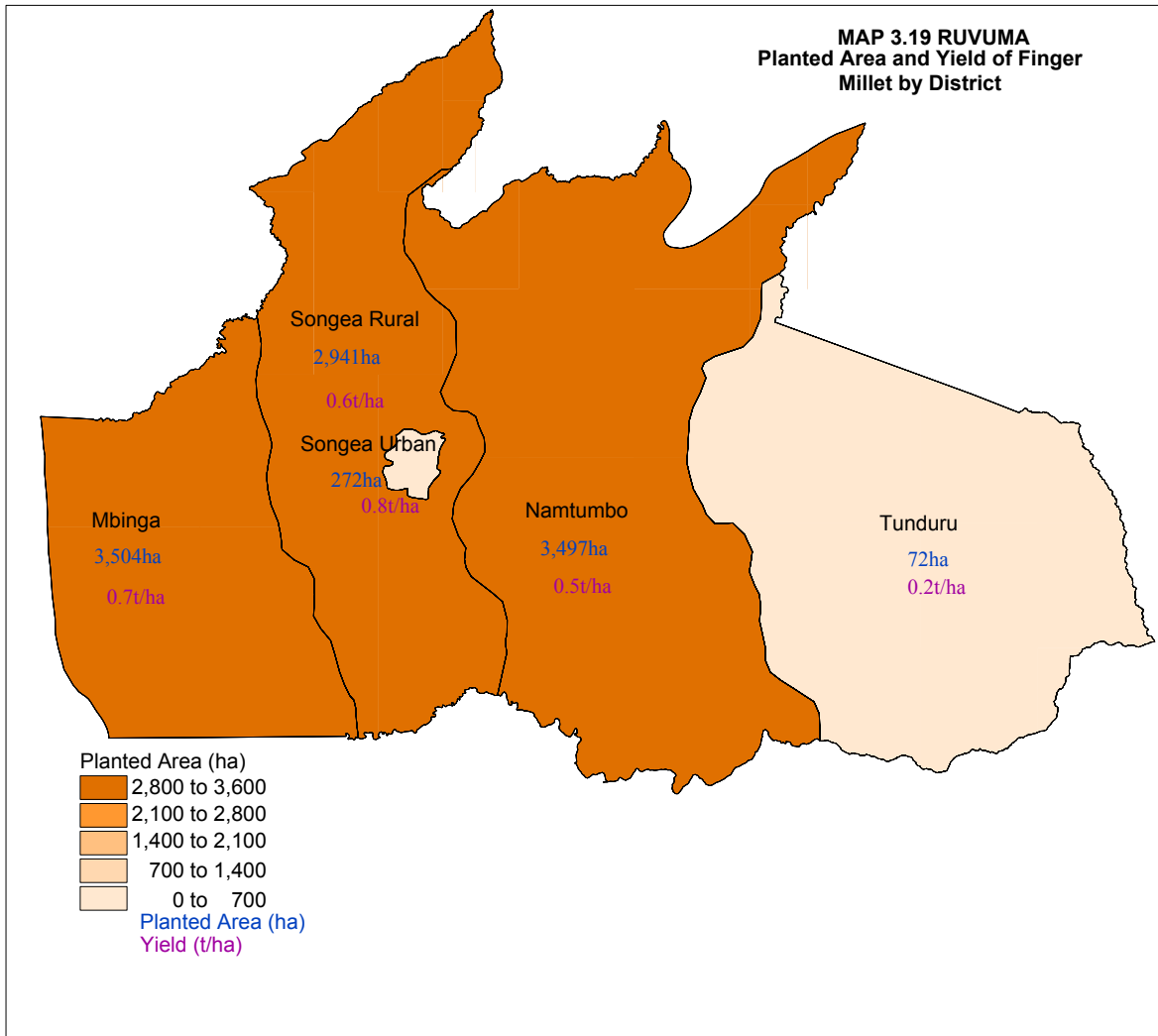
The number of households growing cabbages in the region during wet season was 10,900 and 72 in the dry season. This represented 5.7 percent of the total crop growing households in the region in the wet season and 0.04 percent in the dry season.

Mbinga district had the largest planted area of cabbage (432 ha, 35.5% of the total area planted with cabbage in the region), followed by Namtumbo (260 ha, 21.4%), Songea Rural (248 ha, 20.4%), Songea Urban (201 ha, 16.5%) and Tunduru (75 ha, 6.2%) (Chart 3.44 and Map 3.23). The total area planted with cabbages accounted for 0.3 percent of the total area planted with annual crops and vegetables during the dry and wet season.



3.3.8.3 Onions

The number of households growing onions in the region during the wet season was 4,075 households and there were no households growing onions in the dry season. This represents 2.1 percent of the total crop growing households in the region in the wet season and zero percent in the dry season. Namtumbo district had the largest planted area of onions (186 ha, 31.9% of the total area planted with onions in the region), followed by Mbinga (158 ha, 27.0%), Tunduru (135 ha, 23.1%), Songea Urban (54ha, 9.2%) and Songea Rural (51 ha, 8.8%) districts (Map 3.24).

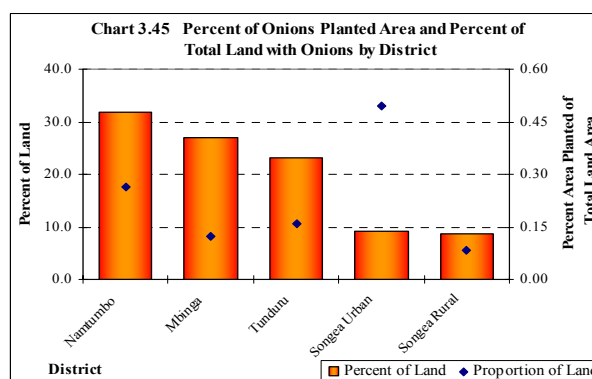


The largest proportion of the area planted with onions was found in Songea Urban district (0.49%), followed by Namtumbo (0.26%), Tunduru (0.16%), Mbinga (0.12%) and Songea Rural (0.08) (Chart 3.45).

The total area planted with onions accounted for 0.16 percent of the total area planted with annual crops and vegetables during the dry and wet seasons.

3.3.9 Other Annual Crop Production

Most of the other annual crops are cash crops. An area of 7,169 ha was planted with other annual crops and tobacco was the only annual cash crop grown in the region. No area was planted with tobacco during the dry season.



3.3.9.1 Tobacco

The quantity of tobacco produced was 4,371 tonnes. Tobacco had a planted area of 7,169 ha, all of which was planted in the wet season. Namtumbo had the largest planted area (78.1% of total area planted with tobacco in the region), followed by Tunduru (9.2%), Songea Rural (8.7%), Mbinga (2.4%) and Songea Urban (1.5%) (Chart 3.46) (Map 3.25 and 3.26).

3.4 Permanent Crops

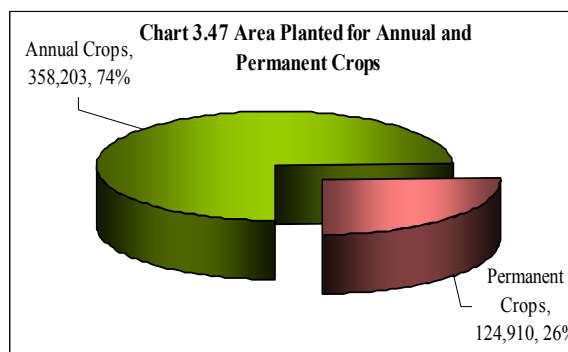
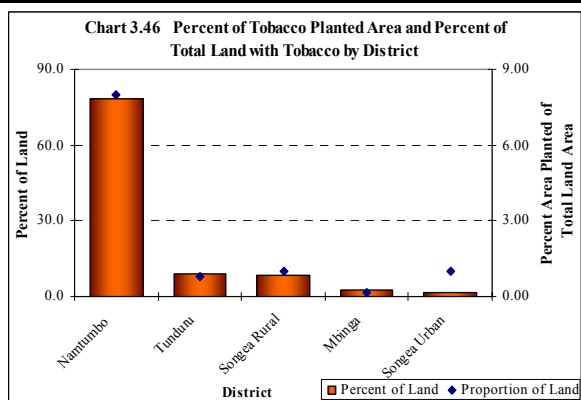
Permanent crops (sometimes referred to as perennial crops) are crops that normally take over a year to mature and once mature can be harvest for a number of

Table 3.7: Area, Production and Yield of Annual Cash Crops by Season

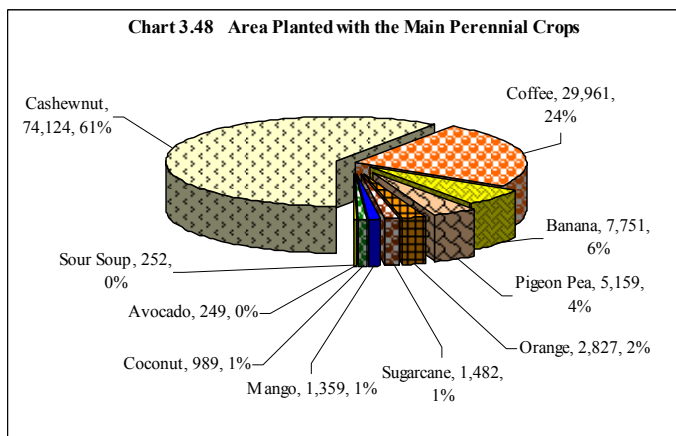
Crop	Dry Season			Wet Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)
Tobacco	0	0	0	7,169	4,371	610	7,169	4,371	610
TOTAL	0	0	0	7,169	4,371	610	7,169	4,371	610

years. For most crops, it is easy to determine if they are annual or permanent. However, for crops like cassava and bananas the distinction is not so clear. Cassava has varieties that mature within a year and produce only one harvest, whilst other varieties survive for more than one year and produces several harvests. In this census, cassava was treated as an annual crop. Conversely, bananas normally take less than a year to mature, survive for more than one year and are thus treated as a permanent crop. In this report the agriculture census results are presented for the most important permanent crops in terms of production, yield and area planted. Previous censuses and surveys did not measure these variables for permanent crops, therefore no time series analysis is made in this section.

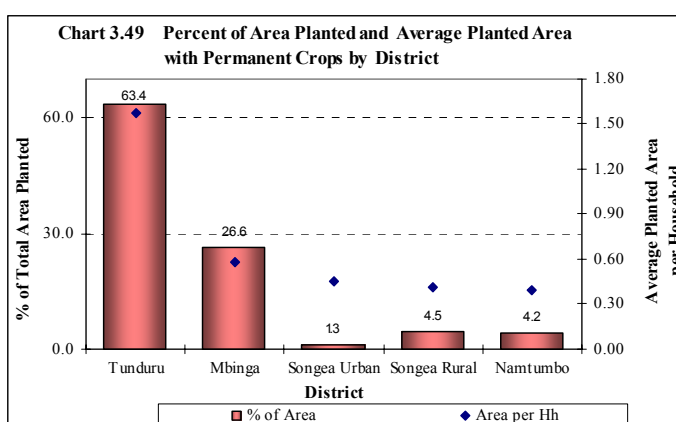
The area of smallholders planted with permanent crops was 124,910 hectares (35% of the area planted with annual crops in the region). However, the area planted with annual crops is not the actual physical land area as it includes the area of crops planted more than once on the same land, whilst the planted area for permanent crops is the same as physical planted land area. So the percentage of physical area planted with permanent crops should be higher than indicated in Chart 3.47.



The most important permanent crop in Ruvuma region is cashewnut which had a planted area of 74,124 ha, (61% of the planted area of all permanent crops) followed by coffee (29,961 ha, 24%), and banana (7,751 ha, 6%). The remaining permanent crops accounted for 10 percent of the total area planted with permanent crops (Chart 3.48).



Tunduru district had the largest area under smallholder permanent crops (79,226 ha, 63.4%). This was followed by Mbinga (33,195 ha, 26.6%), Songea Rural (5,655 ha, 4.5%), Namtumbo (5,233 ha, 4.2%) and Songea Urban (1,603 ha, 1.3%). However, Tunduru had the largest area per permanent crop growing household (1.58 ha) followed by Mbinga (0.58 ha), Songea Urban (0.46 ha), Songea Rural (0.42 ha) and Namtumbo (0.39) (Chart 3.49).

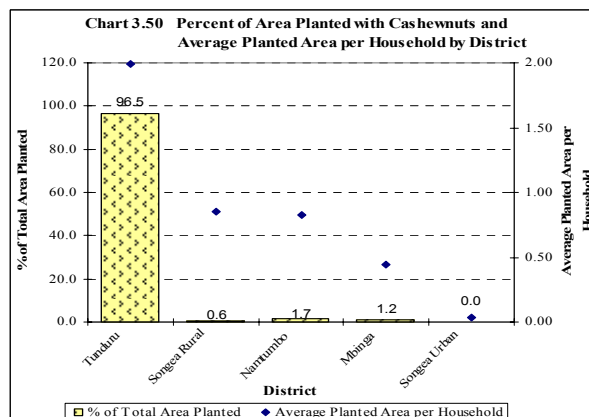


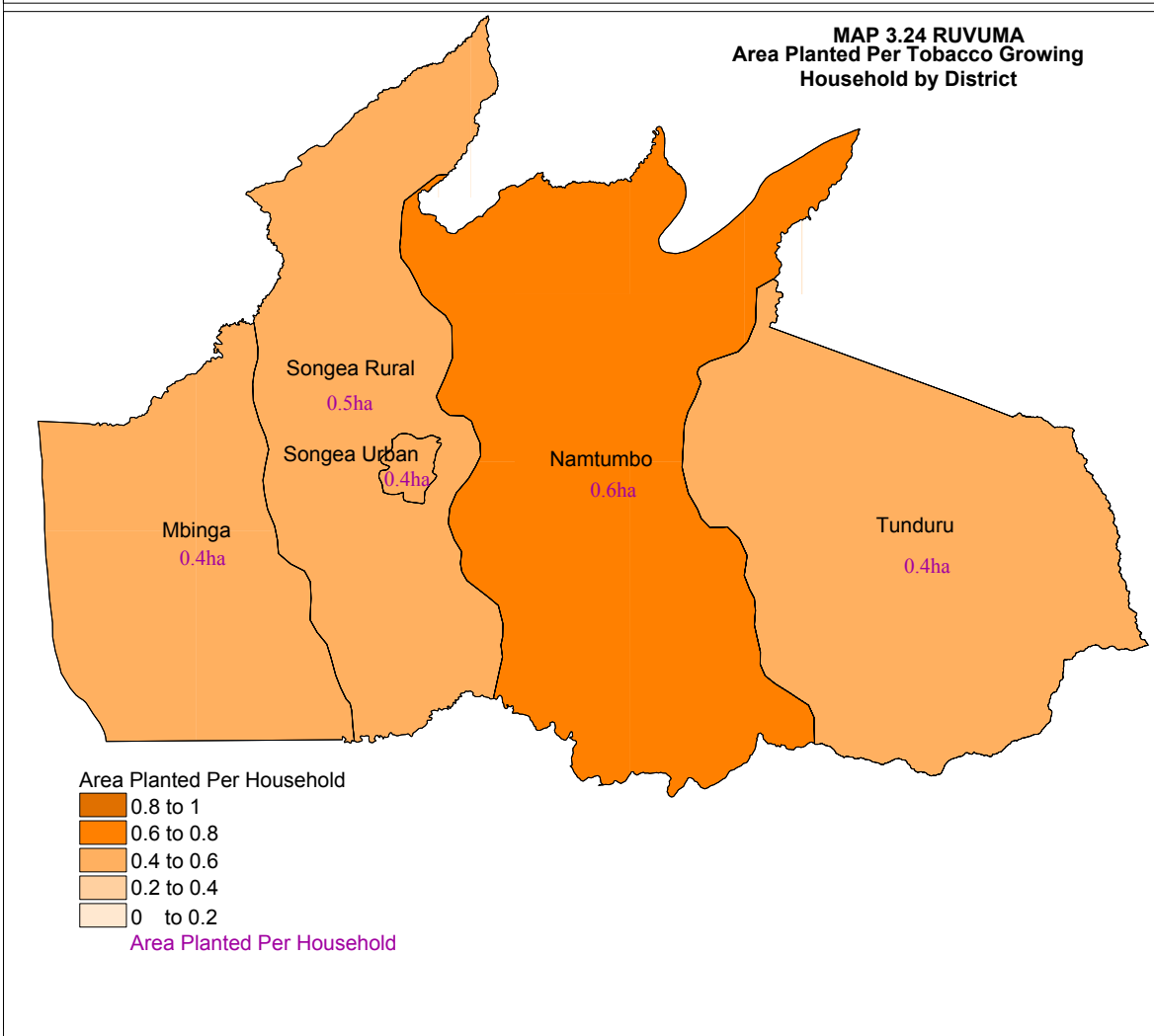
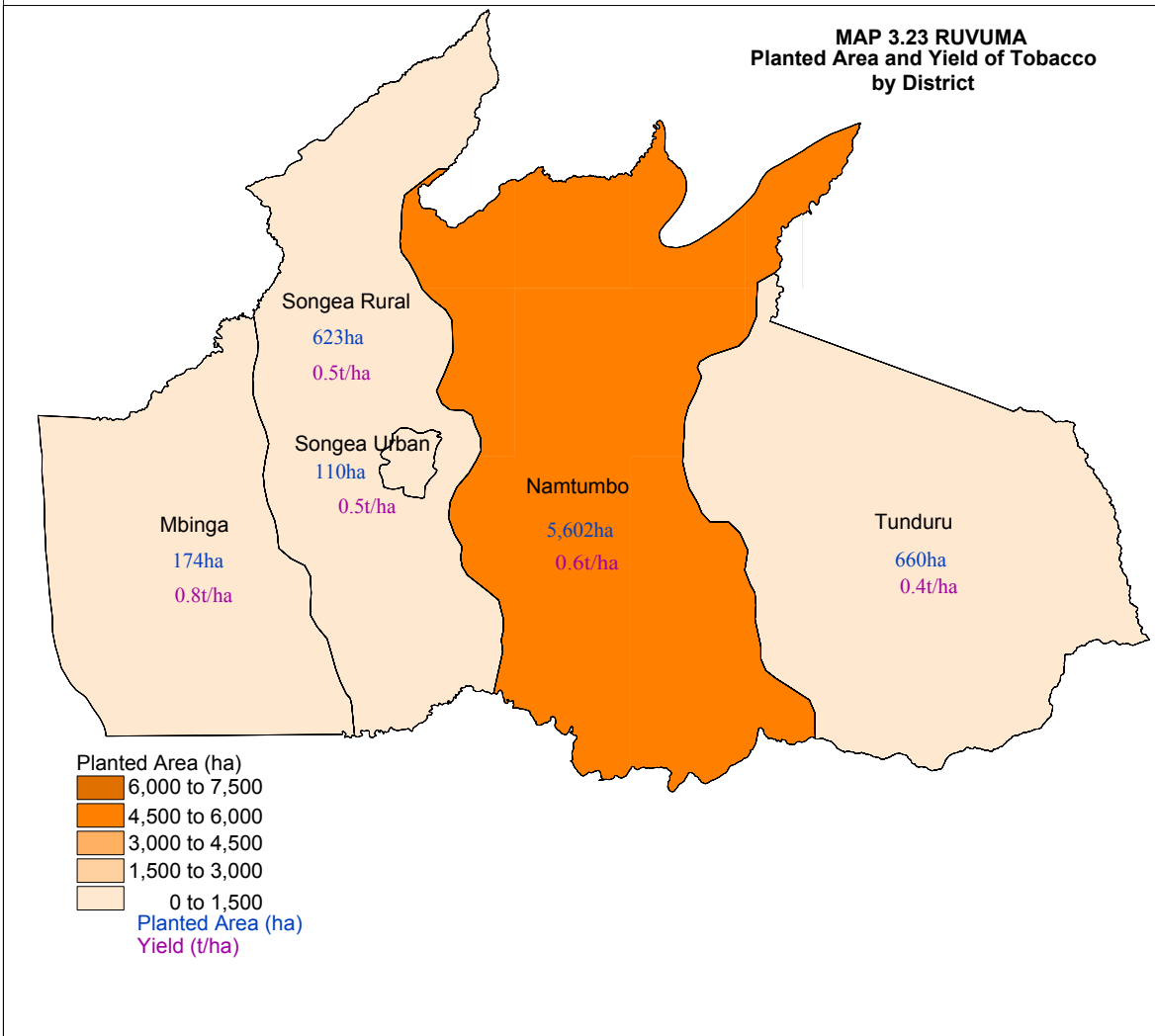
In terms of area of permanent crops planted expressed as a percentage of the total area planted with crops per district, Tuduru had the highest (48%) followed by Songea Urban (20%), Songea Rural (13%), Mbinga (8%), and Namtumbo (7%).

3.4.1 Cashewnut

The total production of cashewnut by smallholders was 9,278 tonnes. In terms of area planted, cashewnut was the most important permanent crop grown by smallholders in the region. They were grown by 39,985 households (20.9% of the total crop growing households). The average area planted with cashewnut per household per cashew nut growing household was 1.85 ha and the average yield obtained by smallholders was 176 kg/ha from a harvest area of 52,08 hectares.

Tunduru had the largest area of cashewnut in the region (71,527 ha, 96.5%) followed by Namtumbo (1,228 ha, 1.7%), Mbinga (917 ha, 1.2%), Songea Rural (451 ha, 0.6%) and Songea Urban (1 ha, 0.0%) (Map 3.27). However, the average area planted with cashewnut per cashewnut growing household was highest in Tunduru (1.99 ha) followed by Songea Rural (0.86 ha), Namtumbo (0.83 ha), Mbinga (0.45 ha) and Songea Urban (0.04 ha) (Chart 3.50 and Map 3.28).

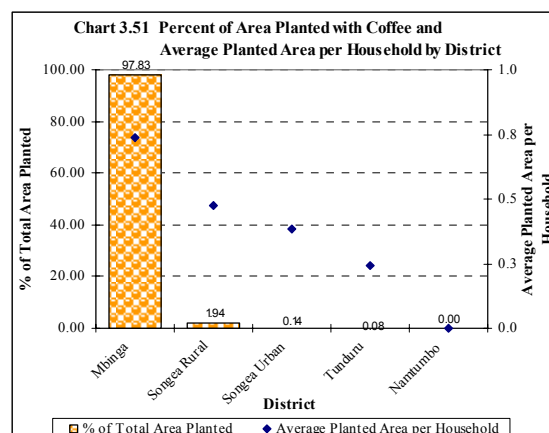




3.4.2 Coffee

The total production of coffee by smallholders was 12,388 tonnes. In terms of area planted, coffee was the second most important permanent crop grown by smallholders in the region. It was grown by 41,347 households (21.6% of the total crop growing households). The average area planted with coffee per household was relatively small at around 0.73 ha per coffee growing household and the average yield obtained by smallholders was 475 kg/ha from a harvest area of 26,030 hectares.

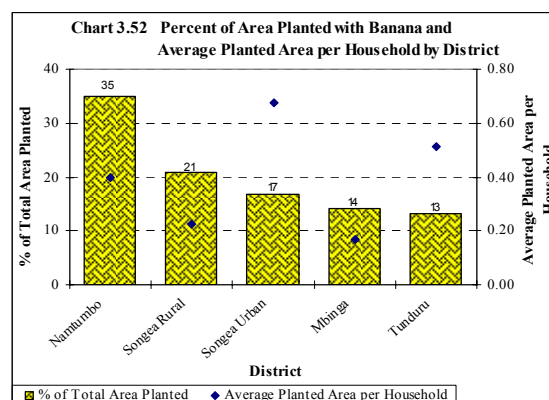
Mbinga had the largest area of coffee in the region (29,312 ha, 97.8%) followed by Songea Rural (582 ha, 1.9%), Songea Urban (42 ha, 0.1%) and Tunduru (25 ha, 0.08%). Coffee was not grown in Namtumbo district (Map 3.29). However, the average area planted with coffee per coffee planting household was highest in Mbinga (0.7 ha) followed by Songea Rural (0.5 ha), Songea Urban (0.4 ha) and Tunduru (0.2 ha) (Chart 3.51 and Map 3.30).



3.4.3 Banana

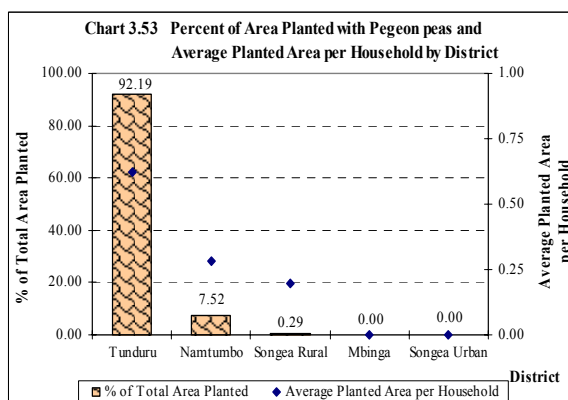
The total production of banana by smallholders was 37,890 tonnes. In terms of area planted, banana was the third most important permanent crop grown by smallholders in the region. It was grown by 24,420 households (12.8% of the total crop growing households). The average area planted with banana per household was relatively small at around 0.32 ha per banana growing household and the average yield obtained by smallholders was 4,888 kg/ha from a harvested area of 7,751 hectares.

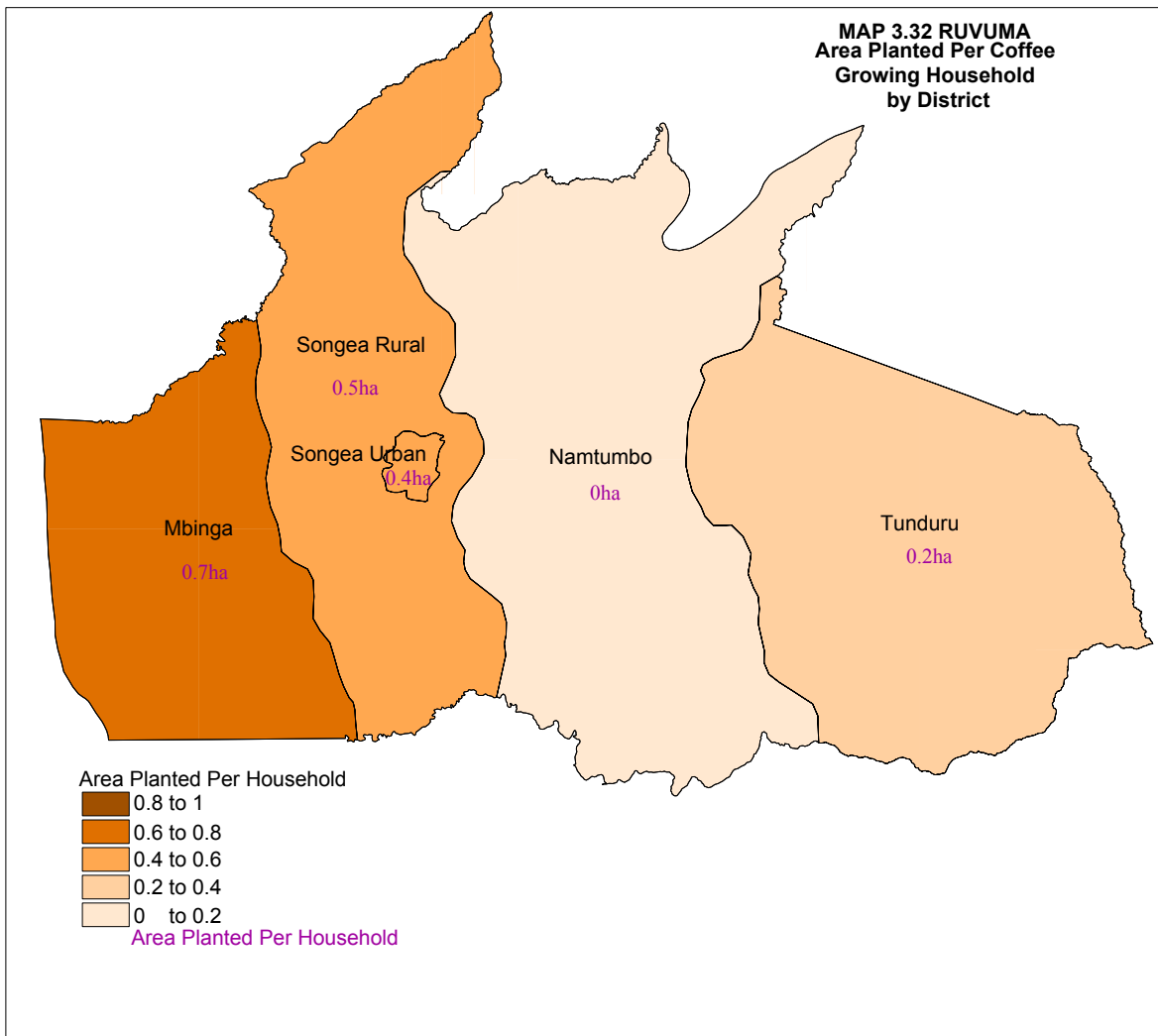
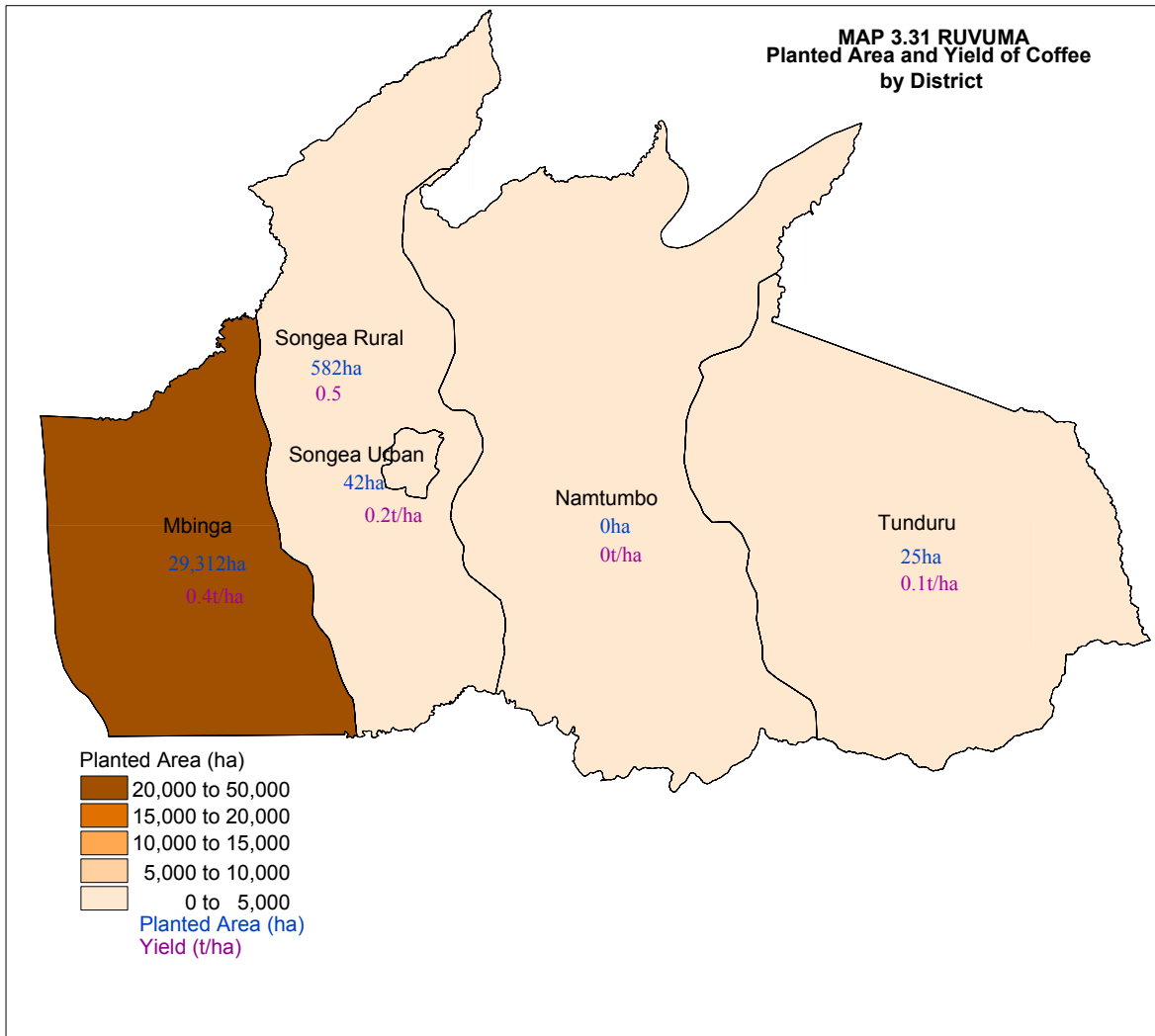
Namtumbo had the largest planted area of bananas in the region (2,704 ha, 35%) followed by Songea Rural (1,622 ha, 21%), Songea Urban (1,307 ha, 17%), Mbinga (1,096 ha, 14%) and Tunduru (1,022 ha, 13%) (Map 3.31). However, the area planted with banana per banana growing household was highest in Songea Urban (0.68 ha), followed by Tunduru (0.51 ha), Namtumbo (0.40 ha), Songea Rural (0.23 ha) and Mbinga (0.17) (Chart 3.52 and Map 3.32).

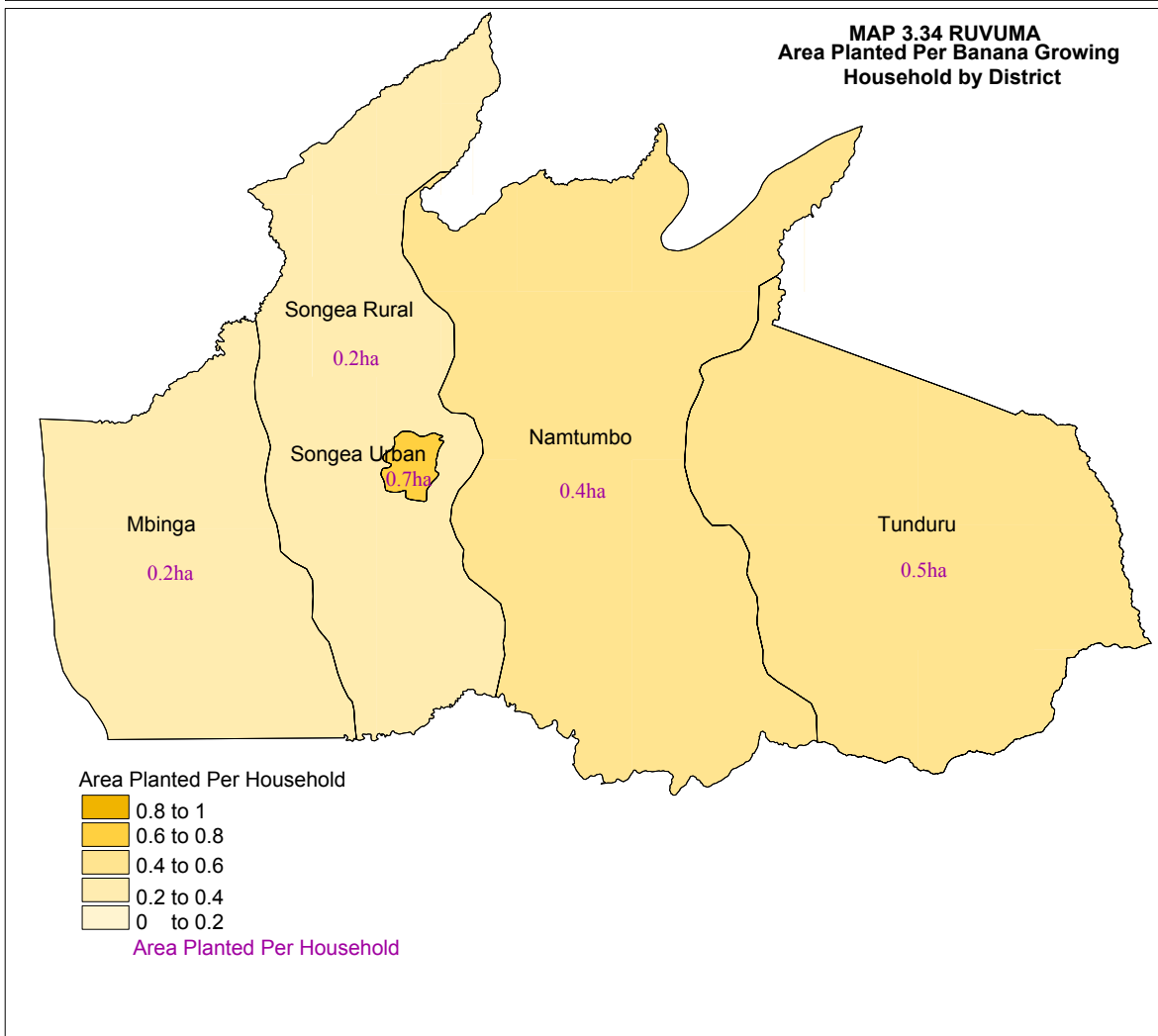
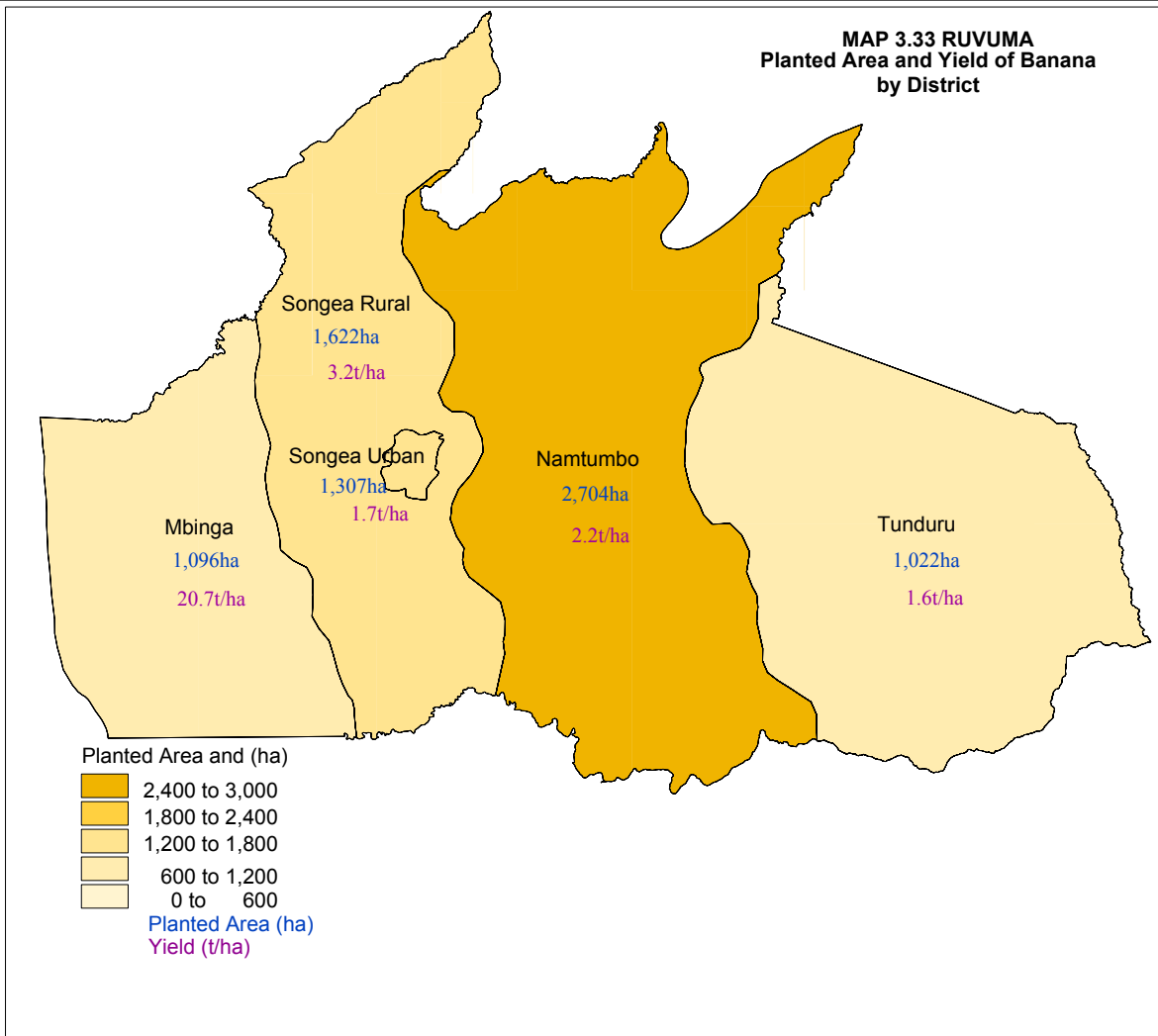


3.4.4 Pigeon Peas

The total production of pigeon peas by smallholders was 515 tonnes. In terms of area planted, pigeon peas was the fourth most important permanent crop grown by smallholders in the region. It was grown by 9,069 households (4.7% of the total crop growing households). The average area planted with pigeon peas per household was relatively small at around 0.57 ha per pigeon peas growing household and the average yield obtained by smallholders was 100 kg/ha from a harvest area of 5,159 hectares.







Tunduru had the largest area of pigeon peas in the region (4,758 ha, 92.19%) followed by Namtumbo (388 ha, 7.52%) and Songea Rural (15 ha, 0.29%). Pigeon peas was not grown in Mbinga and Songea Urban (Map 3.33). However, the average area planted per pigeon peas growing household was highest in Tunduru (0.62 ha), followed by Namtumbo (0.28 ha) and Songea Rural (Chart 53 and Map 3.34).

3.5 Input/Implement Use

3.5.1 Methods of Land Clearing

Land clearing is a common pre-tillage operation practiced by most farmers in the region. Land clearing is divided into two categories: bush clearing, which by definition implies either expansion into virgin areas or into areas which have been left fallow for a long period, while the other category, which includes burning, hand slashing or tractor slashing, is normally an annual clearing exercise to remove vegetation growth from the previous season.

Hand slashing is the most widely used method for land clearing. The area cleared by hand slashing in the region during the wet season was 196,846 ha which represented 72.8

percent of the total area cleared. Bush clearance, burning and tractor slashing are less important methods for land clearing and they accounted 16.8, 9.3 and 1.1 percent of the area cleared respectively (Chart 3.54 and Table 3.8).

3.5.2 Methods of Soil Preparation

Hand cultivation is the most used method for soil preparation and was used in an area of 255,944 ha which represented 94 percent of the total planted area, followed by ox-ploughing (10,809 ha, 4%) and tractor ploughing (4,525 ha, 2%) (Chart 3.55).

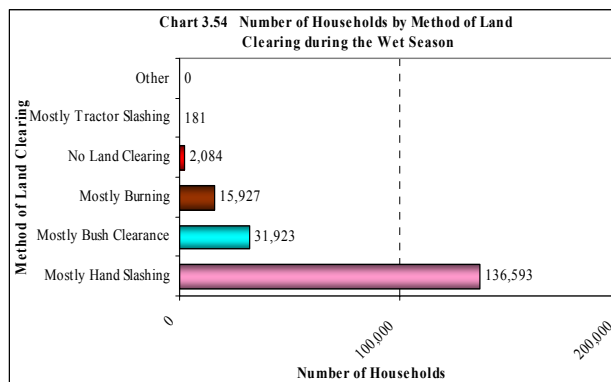
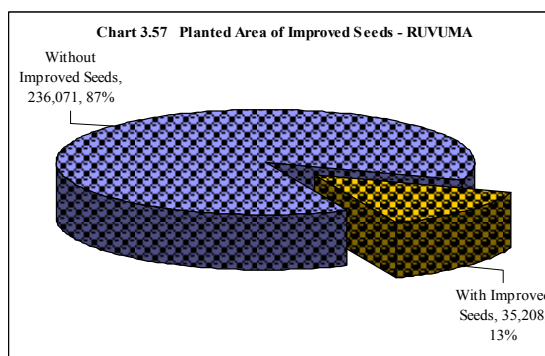
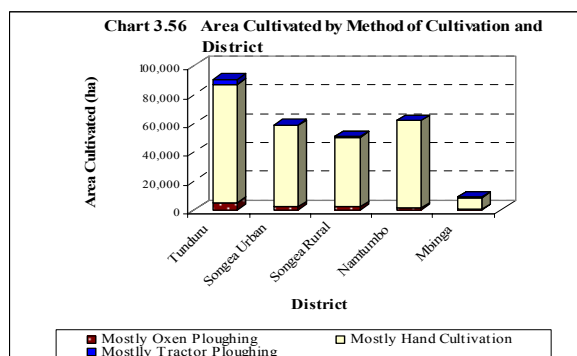
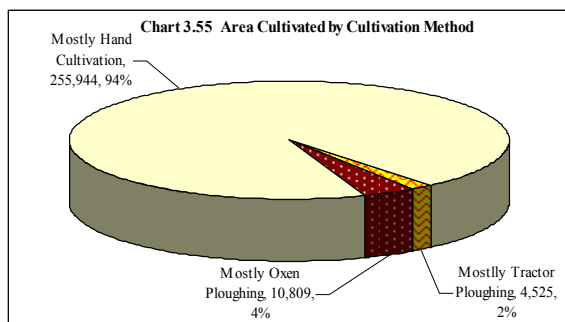
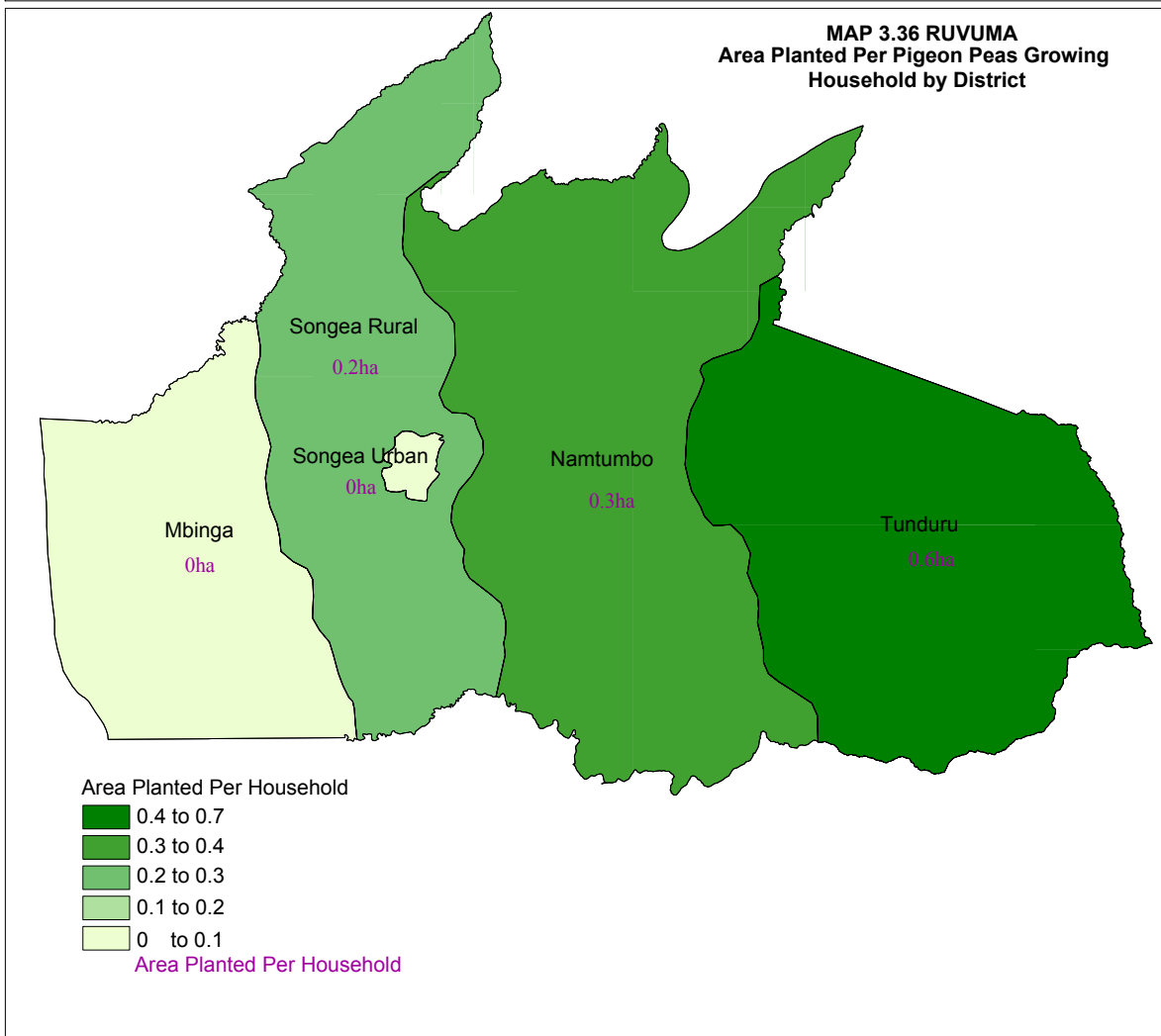
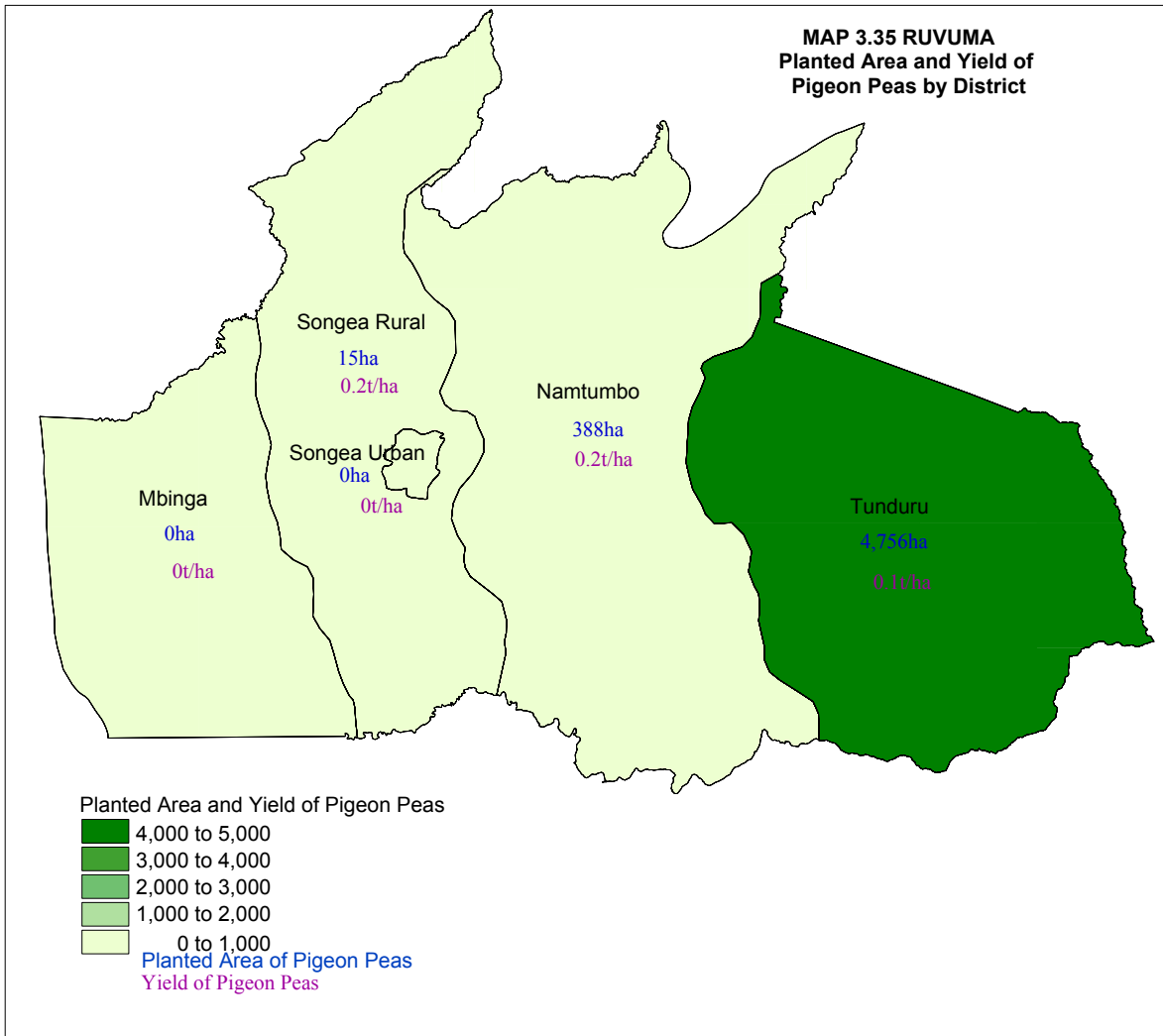


Table 3.8: Land Clearing Methods

Method of Land Clearing	Wet Season			Dry Season			Total		
	Number of Households	Area Planted	%	Number of Households	Area Planted	%	Number of Households	Area Planted	%
Mostly Hand Slashing	136,593	196,846	72.8	145	15	13.6	136,738	196,861	72.8
Mostly Bush Clearance	31,923	45,315	16.8	217	95	86.4	32,140	45,410	16.8
Mostly Burning	15,927	25,069	9.3	0	0	0.0	15,927	25,069	9.3
No Land Clearing	2,084	2,875	1.1	0	0	0.0	2,084	2,875	1.1
Mostly Tractor Slashing	181	245	0.1	0	0	0.0	181	245	0.1
Other	0	0	0.0	0	0	0.0	0	0	0.0
Total	186,708	270,350	100.0	362	110	100.0	187,070	270,460	100.0





While all land preparation was done by hand during the dry season, the area so was 72% of the total planted area during the wet season. All preparation by oxen and tractor was done during the wet season.

In Ruvuma region, Tunduru district had the largest planted area cultivated with oxen (4,907 hectares, 45.4%) followed by Songea Urban (2,268 ha, 21.0%), Songea Rural (2,095 ha, 19.4%), Namtumbo (1,405 ha, 13.0%) and Mbinga (134 ha, 1.2%).

During the wet season, 76.6 percent of the total area cultivated by using oxen was planted with cereals followed by pulses (11.5%), oil seeds (6.2%), fruits and vegetables (2.4%), cash crops (1.9%) and roots and tubers (1.4%).

3.5.3 Improved Seed Use

The planted area using improved seeds was estimated at 35,208 ha which represents 8 percent of the total area planted with the annual crops and vegetables. The percentage use of improved

seed in the dry season was 13.6 percent, slightly higher than the corresponding percentage use in the wet season (9.8%).

Cereals had the largest planted area with improved seeds

(21,034 ha, 60% of the planted area with improved seeds) followed by roots and tubers (6,755 ha, 19%), fruit and vegetables (2,975 ha, 8%), cash crops (2,665 ha, 8%), pulses (1,206 ha, 3%) and Oil seed (593 ha, 2%) (Chart 3.58).

However, the use of improved seed in roots and tubers and fruits and vegetables is much greater than in other crop types (89% and 59% respectively), only 3 percent of the planted area for oil seed crops used improved seed (Chart 3.59).

3.5.4 Fertilizer Use

The use of fertilisers on annual crops was small with its application on a planted area of only 76,463 ha (21.3% of the total planted area in the region). The planted area without fertiliser for annual crops was 281,740 hectares representing 78.7 percent of the total planted area with annual crops. Of the planted area with fertiliser application, inorganic fertilizers were applied to 43,402 ha which represents 12.1 percent of the total planted area (56.8% of the area planted with fertiliser application in the region). This was followed by farm yard manure (29,470 ha, 38.5%). Compost fertilizers were used on a very small area which represented only 47 percent of the area planted with fertilizers.

Chart 3.58 Planted Area with Improved Seed by Crop Type

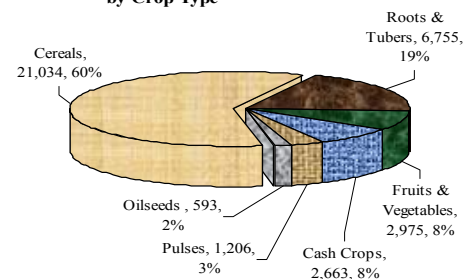


Chart 3.59 Percentage of Crop Type Planted Area with Improved Seed - Annuals

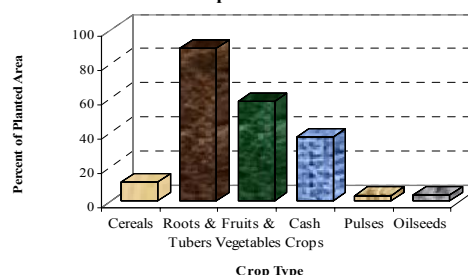


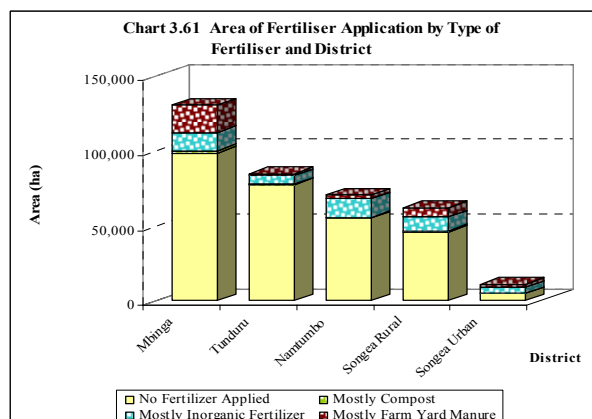
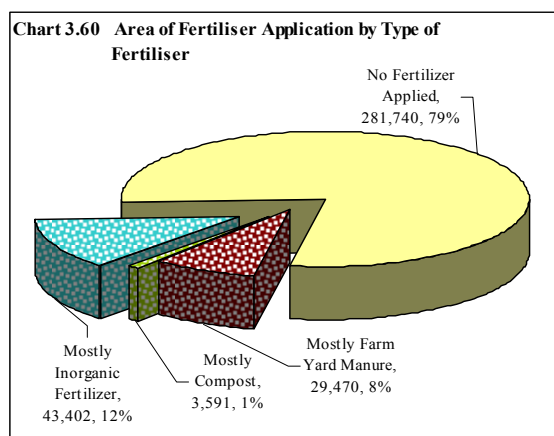
Table 3.10: Number of Crop Growing Households and Planted Area By Type of Fertilizer Use and District – Wet Season

District	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Tunduru	604	1,163	318	649	3,128	5,457	42,742	77,275	46,792	84,544
Songea Rural	2,723	5,952	460	829	4,836	9,312	22,677	45,875	30,696	61,969
Mbinga	8,451	17,981	641	1,561	7,714	12,325	60,509	98,519	77,315	130,386
Songea Urban	1,010	2,098	109	159	2,419	3,857	3,404	4,806	6,943	10,920
Namtumbo	1,150	2,277	143	394	5,540	12,340	22,282	55,265	29,115	70,275
Total	13,938	29,470	1,671	3,591	23,638	43,292	151,614	281,740	190,861	358,093

Table 3.9 Planted Area by Type of Fertilizer Use and District – Wet and Dry Season

District	Fertilizer Use				No Fertilizer Applied
	Mostly Farm Yard Manure	Mostly Compost	Mostly Inorganic Fertilizer	Total applied	
Tunduru	1,163	649	5,457	7,269	77,275
Songea Rural	5,952	829	9,312	16,094	45,875
Mbinga	17,981	1,561	12,325	31,867	98,519
Songea Urban	2,098	159	3,857	6,114	4,806
Namtumbo	2,277	394	12,449	15,120	55,265
Total	29,470	3,591	43,402	76,463	281,740

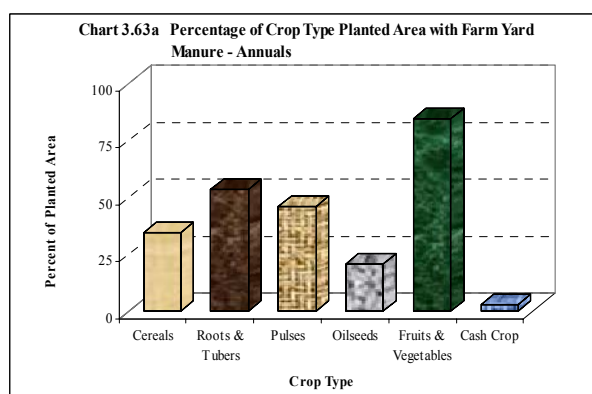
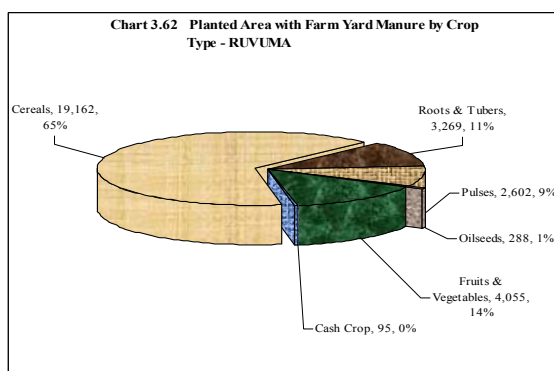
The highest percentage of the area planted with fertilizers (all types) was in Mbinga district (41.7%) followed by Songea Rural (21%), Namtumbo (20%), Tunduru (10%) and Songea Urban (8%) (Table 3.9 and Charts 3.60 and 3.61).



Most annual crop growing households do not use any fertiliser (approximately 39,247 households, 20.6%) (Map 3.35). The percentage of the planted area with applied fertilizer was highest for cereals (75.1% of the area planted with these cereals during the wet season had an application of fertilizers). This was followed by pulses (6.7%), roots and tubers (6.6%), cash crops (5.7%), fruits and vegetables (3.7%) and oil seeds (2.1%) (Table 3.10).

3.5.4.1 Farm Yard Manure Use

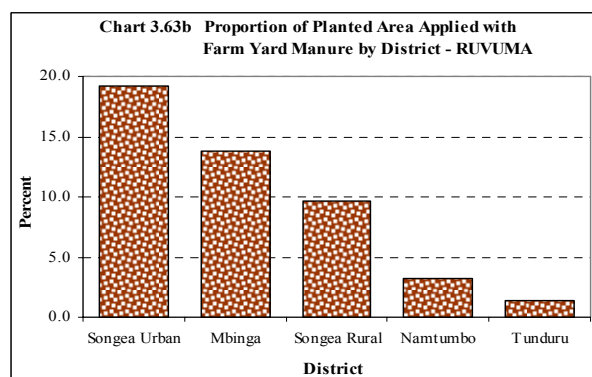
The planted area applied with farm yard manure in Ruvuma region during wet season was 29,470 ha representing 8.2% of the total planted area during that season. The number of households that applied farm yard manure in their annual crops during wet season was 13,938. (Table 3.10). Cereals had the highest percent of the total area planted with applied farm



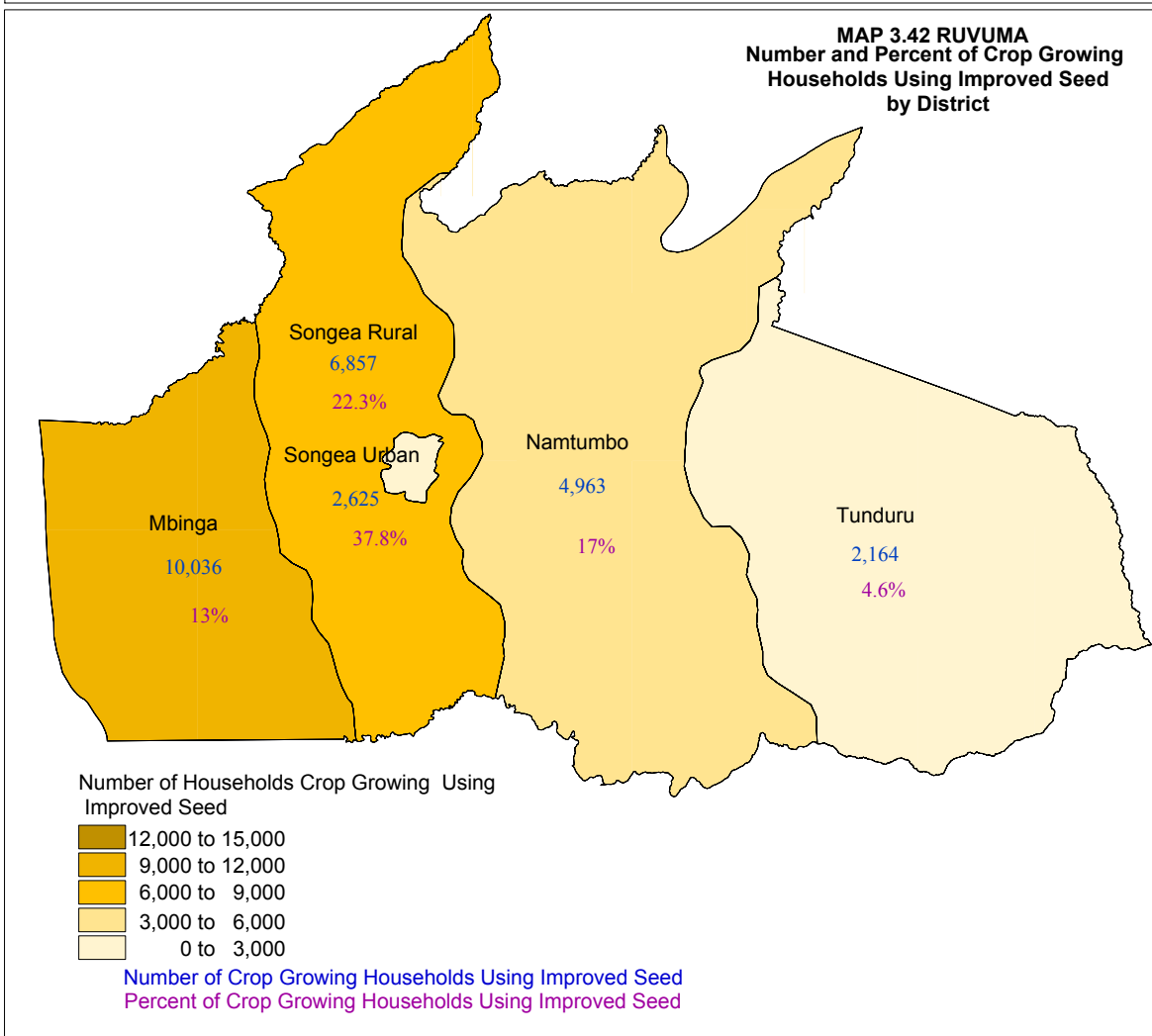
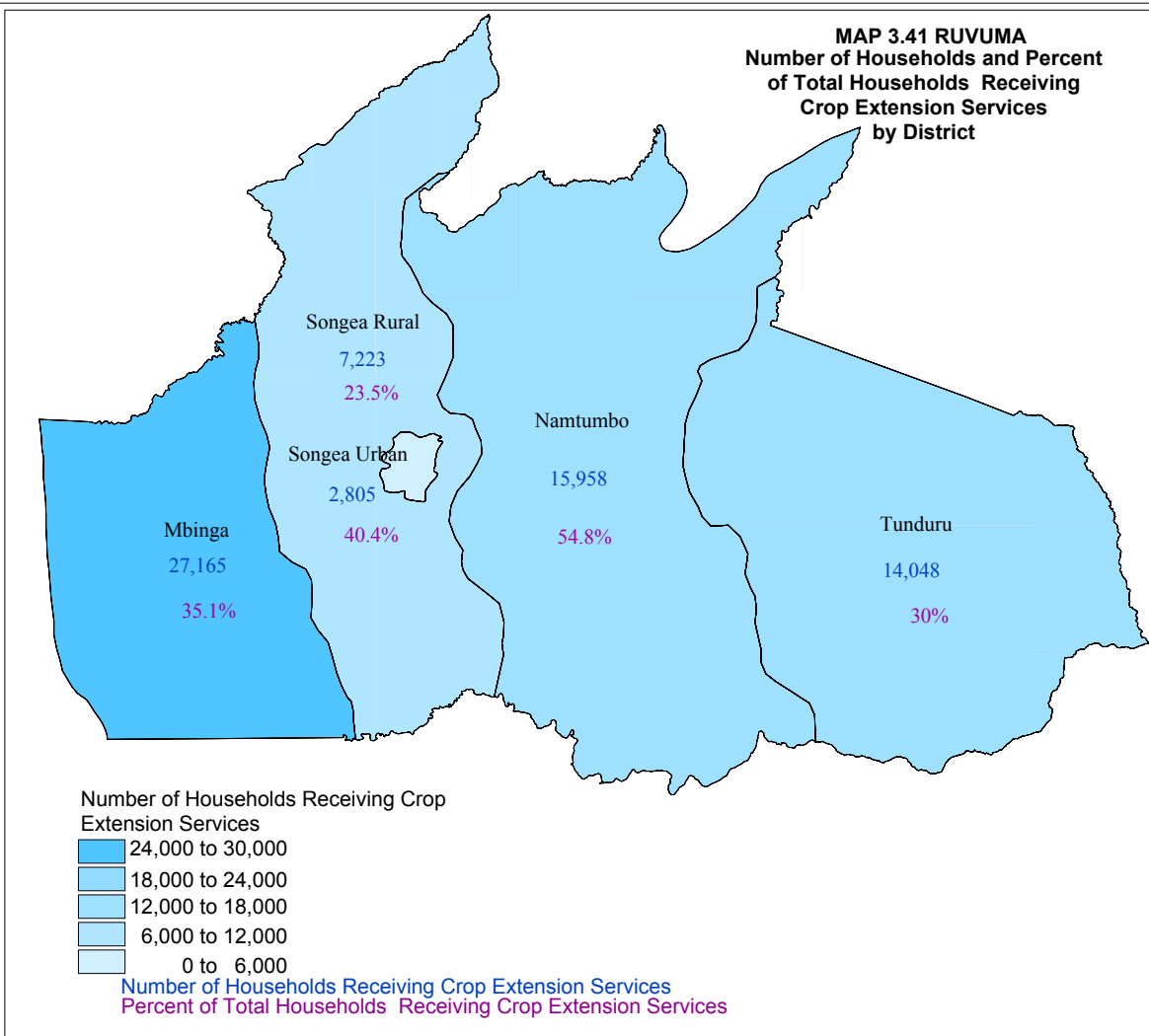
yard manure (65%), followed by fruit and vegetables (14%), roots and tubers (11%), pulses (9%), oil seeds (1%) and cash crops (0.3%).

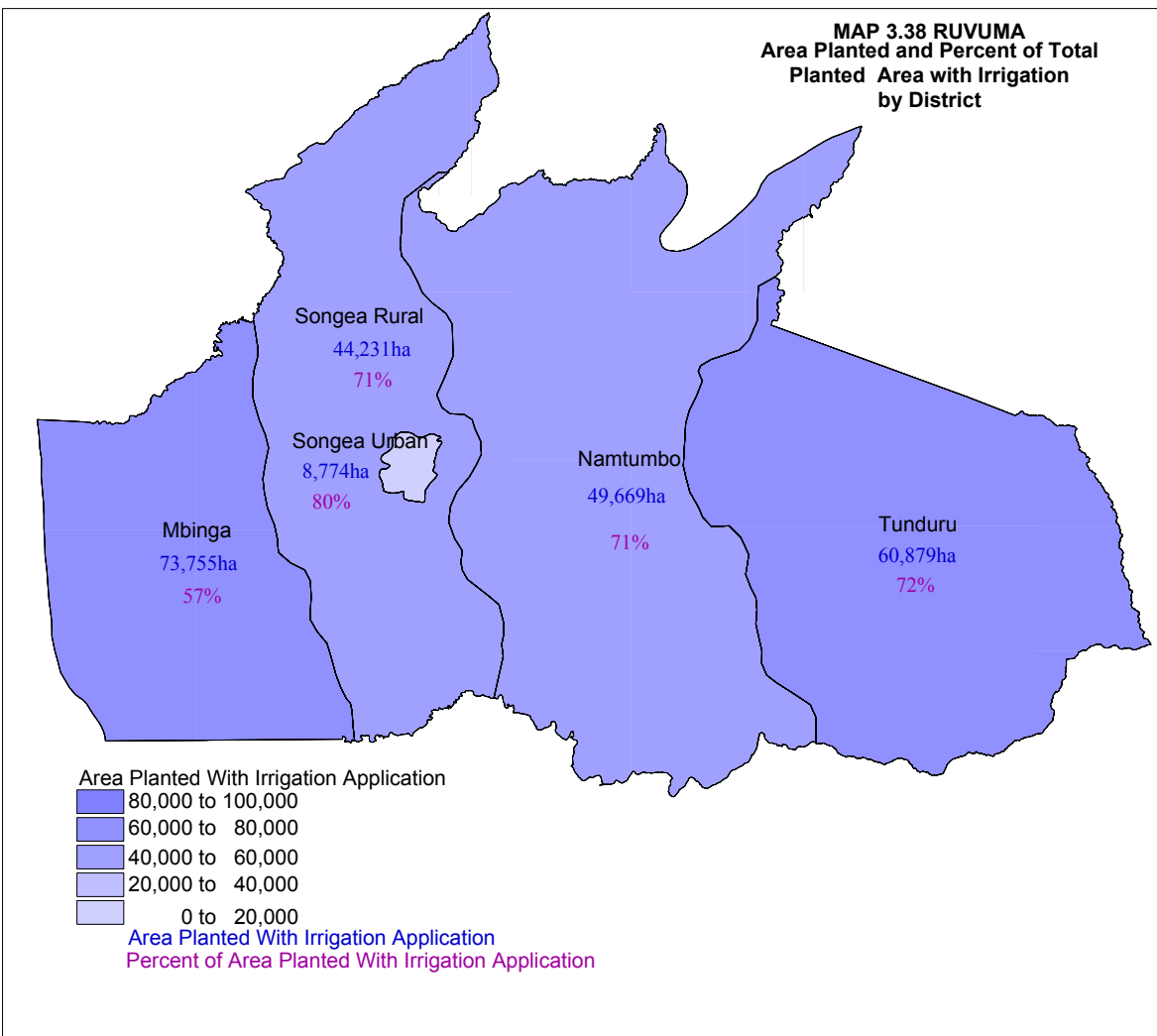
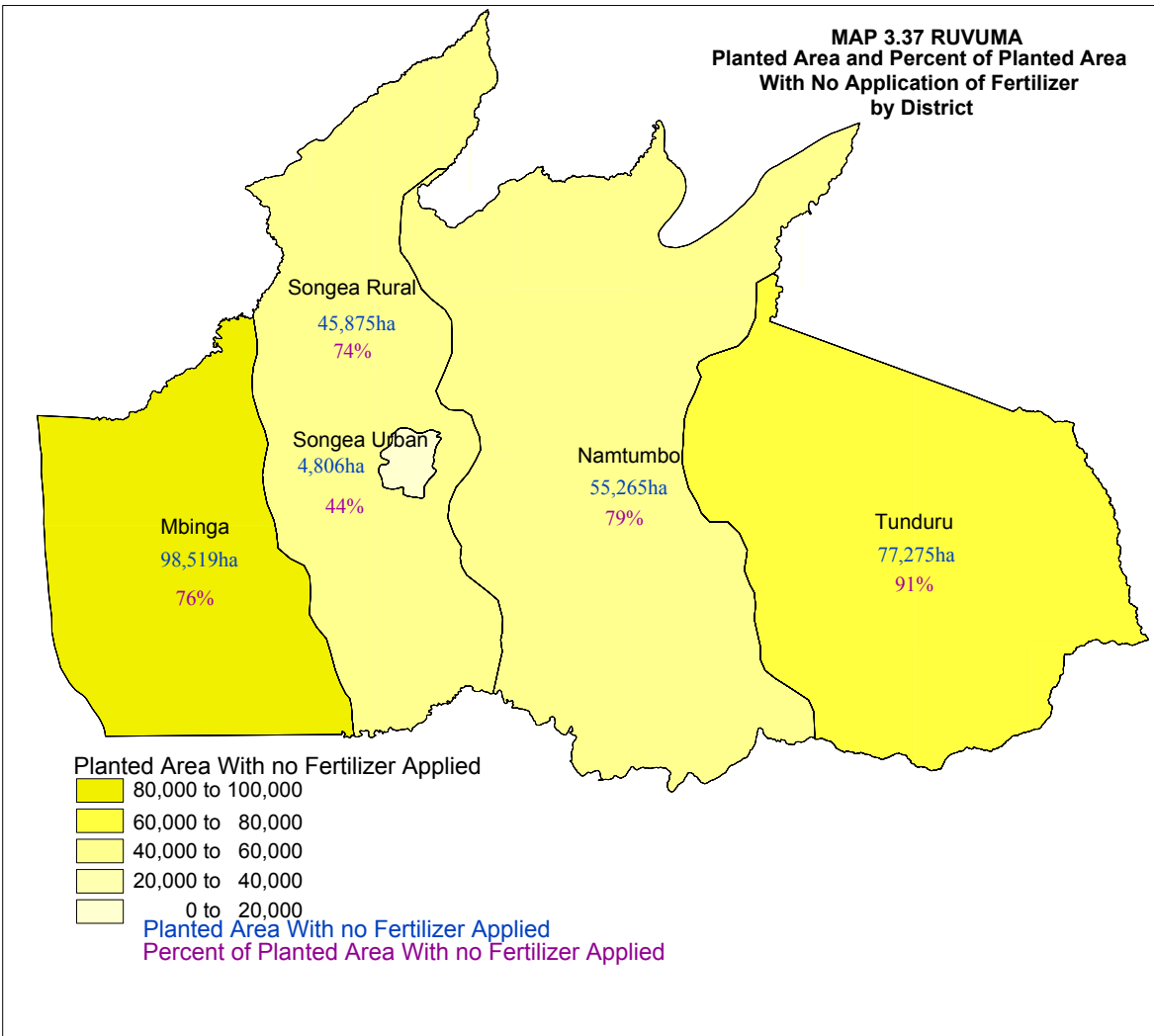
Fruit and vegetables had the highest percent of the planted area with farm yard manure (84.5% of the total area planted with fruit and vegetables in Ruvuma). This was followed by roots and tubers (53%), pulses (46%), cereals (35%), oil seeds (21%) and cash crops (1%) (Charts 3.62 and 3.63a).

Farm yard manure is mostly used in Songea Urban (19.2% of the total planted area in the district), followed by Mbinga (13.8%), Songea Rural (9.6%), Namtumbo (3.2%) and Tunduru (1.4%)



(Chart 3.63b).





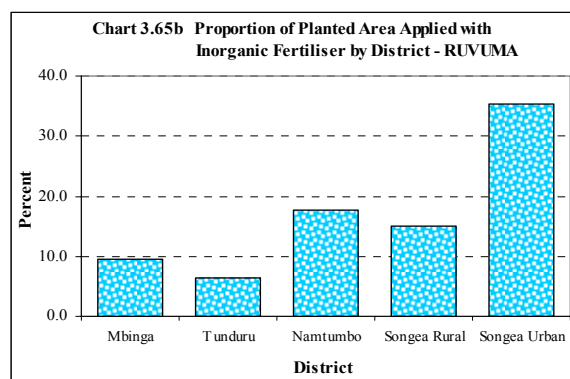
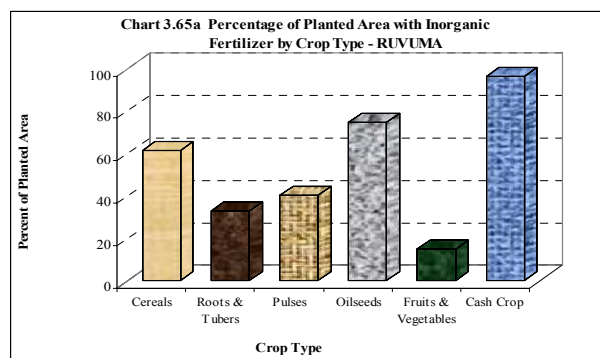
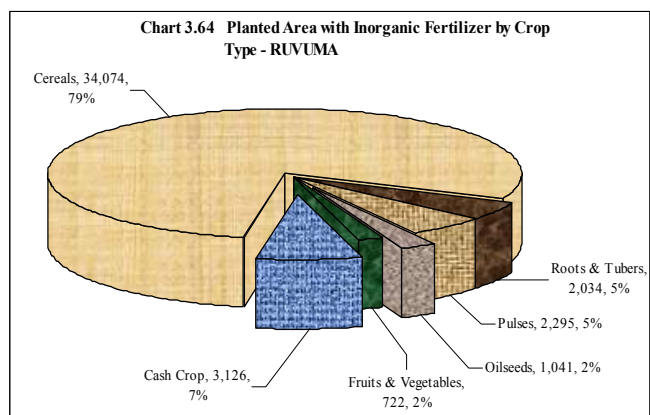
For permanent crops, most farm yard manure is used for the production of coffee (89.5%), followed by banana (6.6%) and cashewnut (1.0%).

3.5.4.2 Inorganic Fertiliser Use

The total planted area applied with inorganic fertilisers in Ruvuma region during wet season was 43,292 ha which represented 12.1 percent of the total planted area with annuals in the region and 56.6 percent of the total planted area with fertiliser. The number of households that applied inorganic fertilizer on their annual crops during the long rainy season was 23,638 and it was applied to 43,292 ha representing 12.1 percent of the total area planted during that season (Table 3.10). The largest area applied with inorganic fertilizers was on cereals (79% of the total area applied with inorganic fertilizers), followed by cash crop (7%), pulses (5%), roots and tubers (5%), oil seeds (2%) and fruit and vegetables (2%) and (Chart 3.64). However, the proportion of cash crop with inorganic fertilizers was higher than other crop types (96%), followed by oil crops (75%), cereals (62%), Pulses (40%), roots and tubers (33%) and fruits and vegetables (15%) (Chart 3.65a).

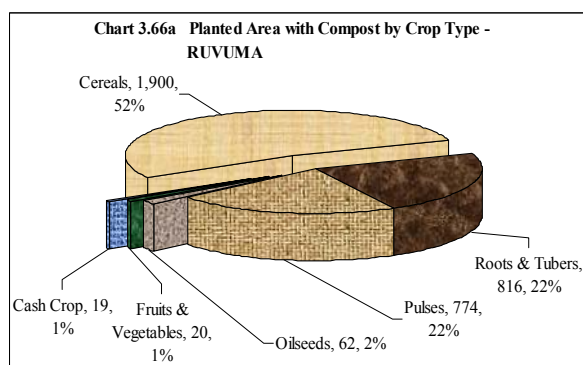
Inorganic fertiliser is mostly used in Songea Urban (35.3% of the total planted area in the district), followed by Namtumbo (17.7%), Songea Rural (15.0%), Mbinga (9.5%) and Tunduru (6.5%) Chart 3.65b).

In permanent crops inorganic fertiliser were mostly used on passion fruits (90.6%), followed by pineapple (18.0%), coffee (17.8%), sugarcane (10.5%), mangoes (9.6%), coconut (3.0%), cashew (1.8%), pigeon peas (1.6%) and banana (1.4%).



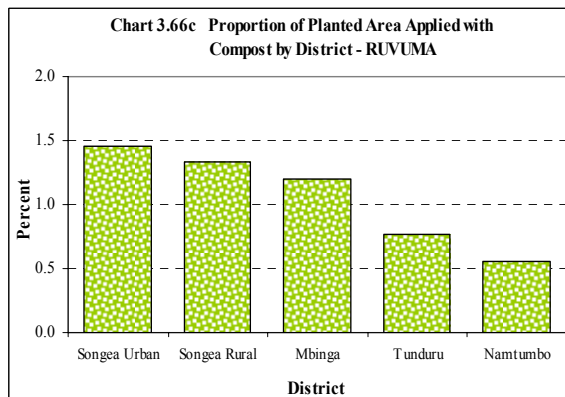
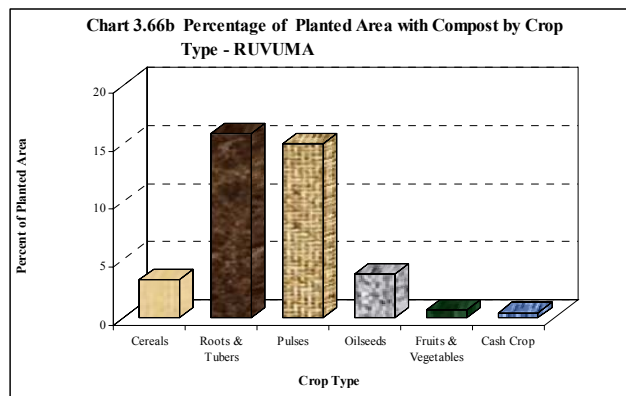
3.5.4.3 Compost Use

he total planted area applied with compost was 3,591 ha which represents only 1.0 percent of the total planted area with annual crops in the region and 5 percent of the total planted area with fertiliser in the region. The number of households that applied compost manure on their annual crops during the wet season was 1,671 and it was applied to 3,591 ha representing 1.4 percent of the total area planted (Table 3.10 and Chart 3.66a). The proportion of area applied with compost was very low for each type of crop (0 to 14%); however the distribution of the total area using compost manure shows that 52.9 percent of this area was cultivated with cereals, followed



by roots & tubers (22.7%), pulses (21.5%), oil seed (1.7%), fruit and vegetables (0.6%) and cash crop (0.5%) (Chart 3.66b).

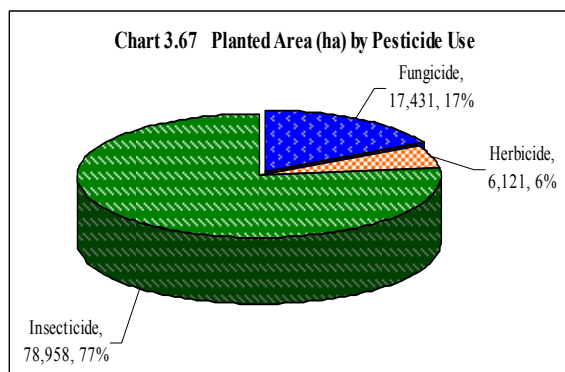
Compost is mostly used in Songea Urban (1.5% of the total planted area in the district), and this is closely followed by Songea Rural (1.3%), Mbinga (1.2%), Tunduru (0.8%) and Namtumbo (0.6%) (Chart 3.66c).



In permanent crops, compost was mostly used to banana (6.8%) followed by sugarcane (2.1%), coffee (1.2%), mango (0.6%) and cashewnut (0.1%).

3.5.5 Pesticide Use

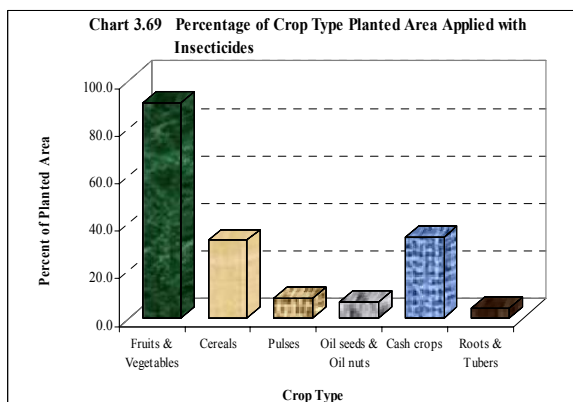
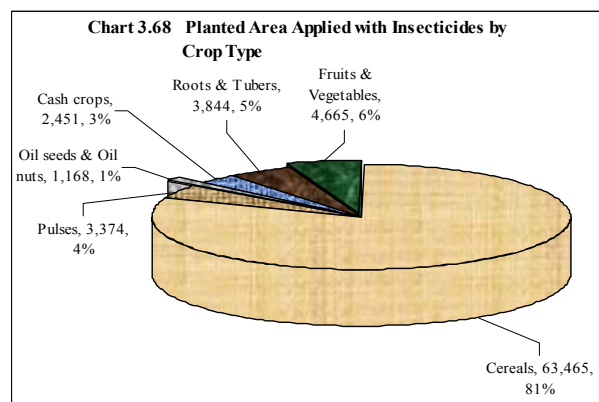
Pesticides are chemicals used for controlling insects, diseases and weeds. This section analyses the use of these chemicals by smallholders on both annual and permanent crops in the region. Pesticides were applied to a planted area of 102,510 ha of annual crops and vegetables.

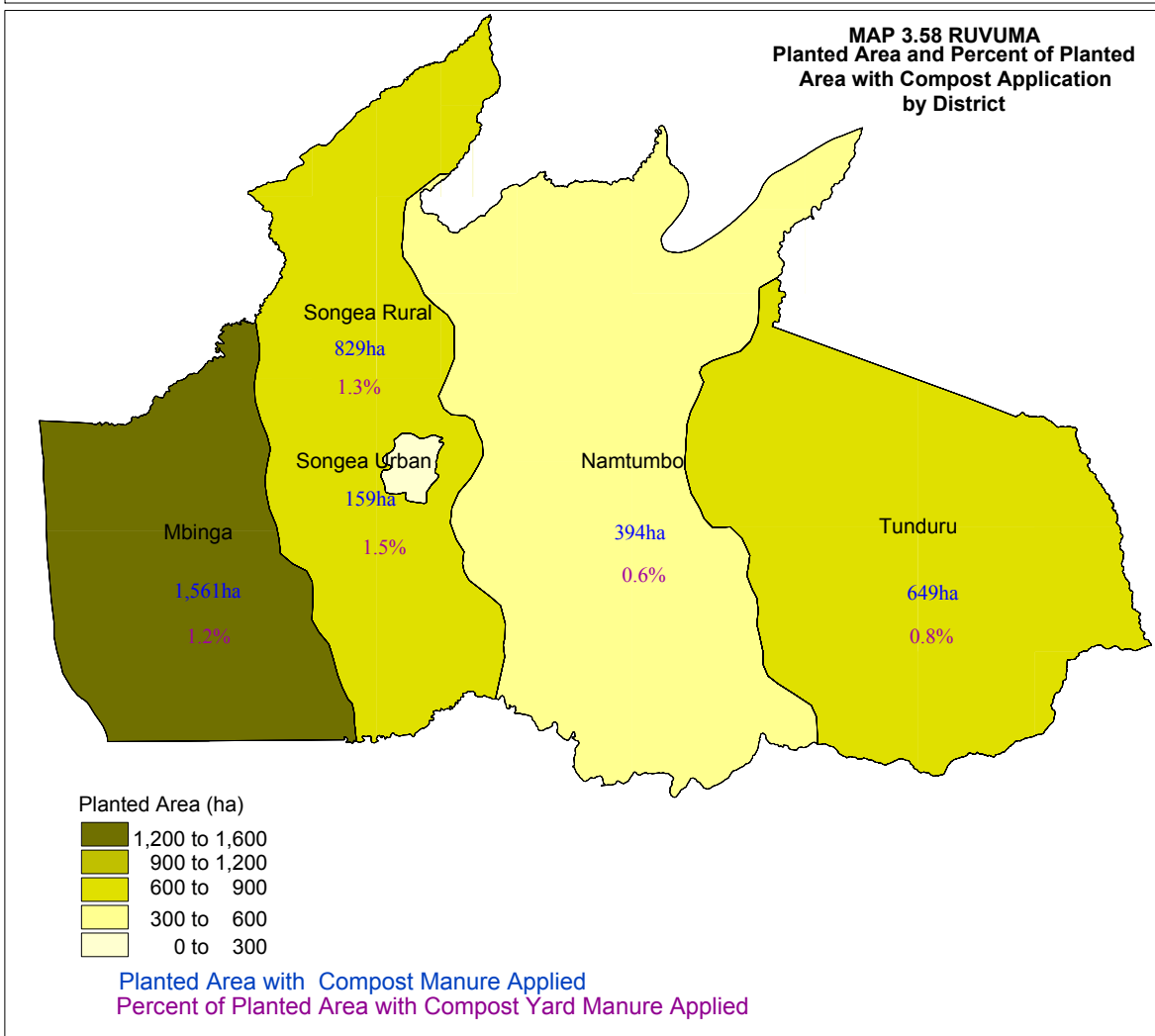
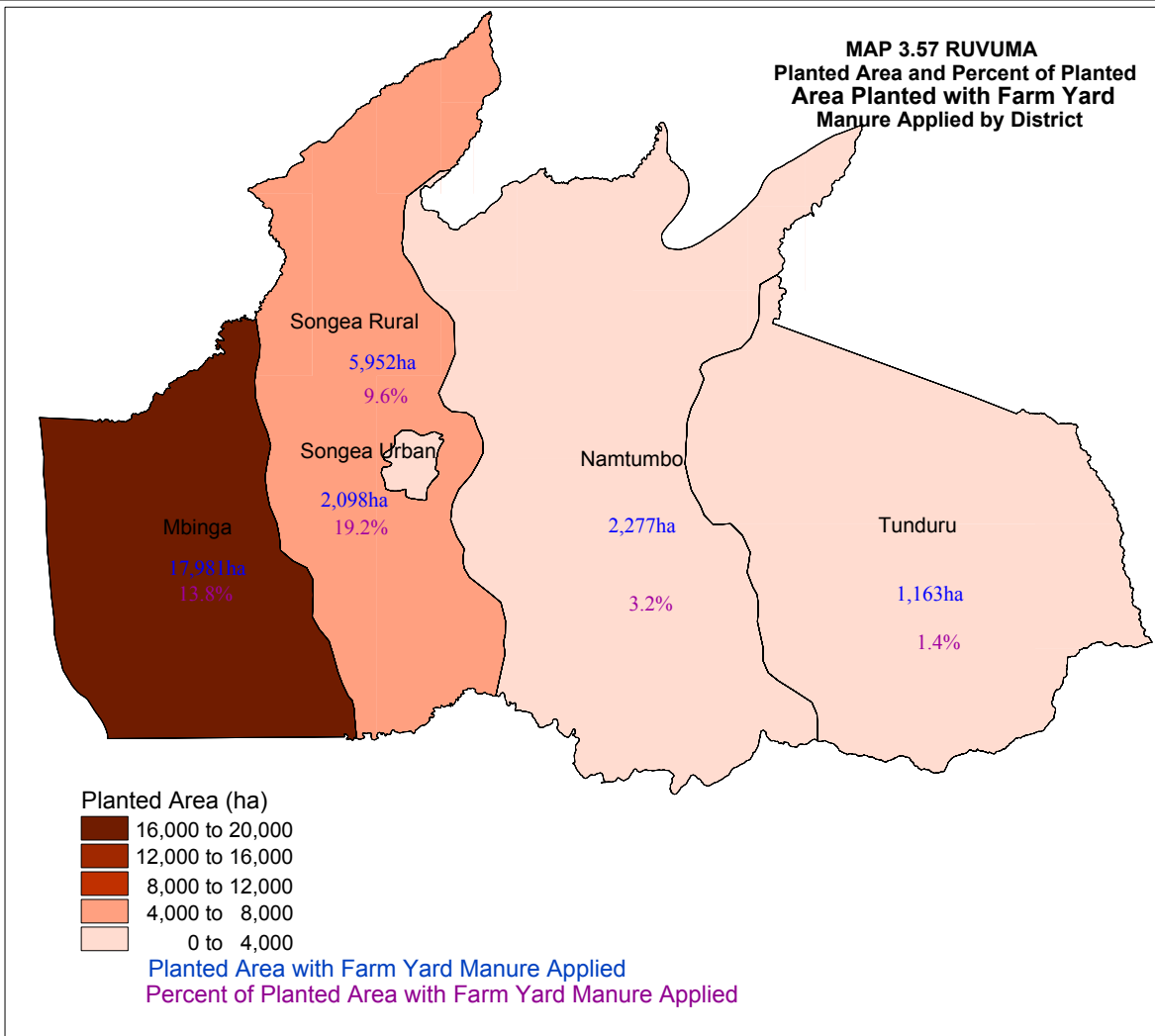


Insecticides are the most common pesticide used in the region (77% of the total area applied with pesticides). This was followed by fungicides (17%) and herbicides (6%) (Chart 3.67).

3.5.5.1 Insecticide Use

The planted area applied with insecticides was estimated at 78,958 ha which represented 22.0 percent of the total planted area for annual crops and vegetables.



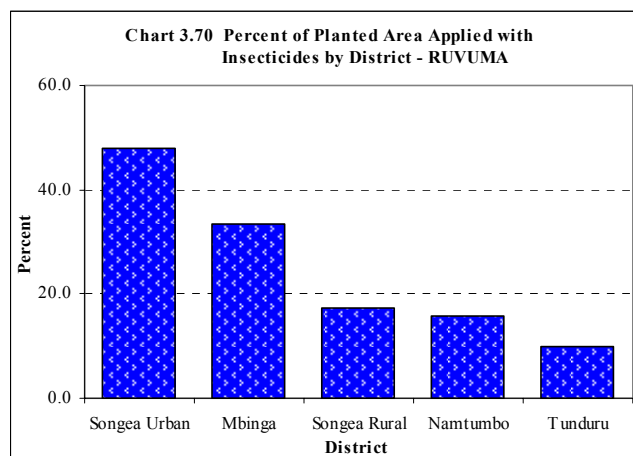


Cereals had the largest planted area applied with insecticides (63,465 ha, 81% of the total planted area with insecticides) followed by fruit and vegetables (4,665 ha, 6%), roots and tubers (3,844 ha, 5%), pulses (3,374 ha, 4%), cash crops (2,451 ha, 3%) and oil crops (1,168 ha, 1%)(Chart 3.68).

However, the percent of insecticides used in fruits and vegetables is much greater than in other crop types (90.8%), while only 4.1 percent of roots and tubers crops were applied with insecticides (Chart 3.69).

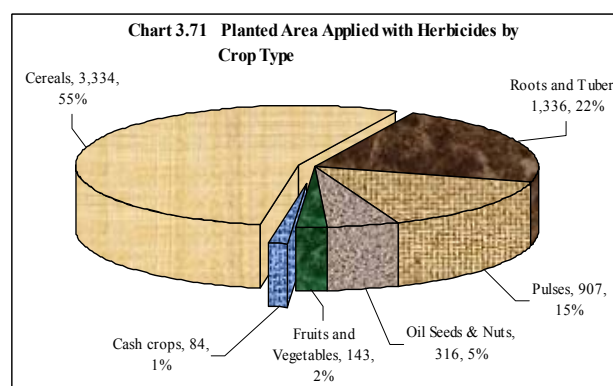
Annual Crops with more than 50 percent insecticide use were spinach (60.3%) and egg plant (55.0%).

Songea Urban had the highest percent of planted area with insecticides (47.9% of the total planted area with annual crops in the district). This was followed Mbanga (33.3%) then Songea Rural (17.3%) and Namtumbo (15.8%). The smallest percentage use was recorded in Tunduru district (9.9%) (Chart 3.70).



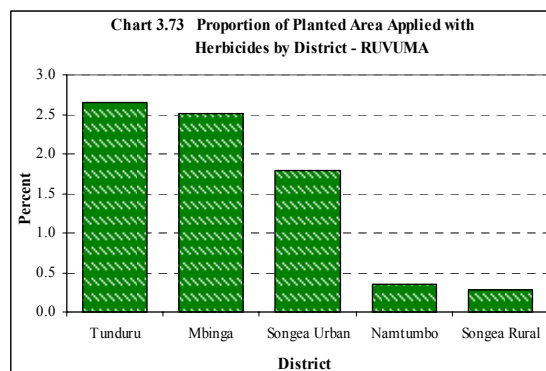
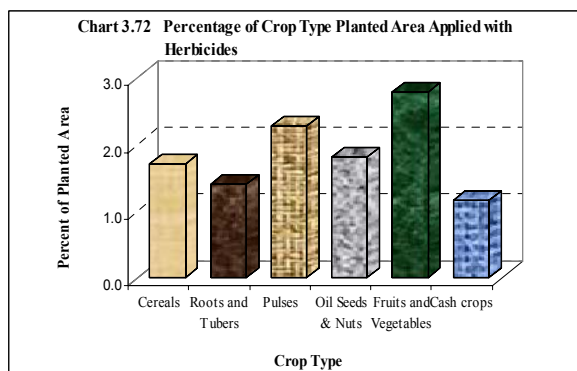
5. 5.2 Herbicide Use

The planted area applied with herbicides was 6,121 ha which represented 1.7 percent of the total planted area annual crops and vegetables. Cereals had the largest planted area applied with herbicides (3,334 ha, 55%) followed by roots and tuber (1,336 ha, 22%), pulses (907 ha, 15%), oil crops (316 ha, 5%), fruits and vegetables (143 ha, 2%) and cash crops (84 ha, 1%) (Chart 3.71).



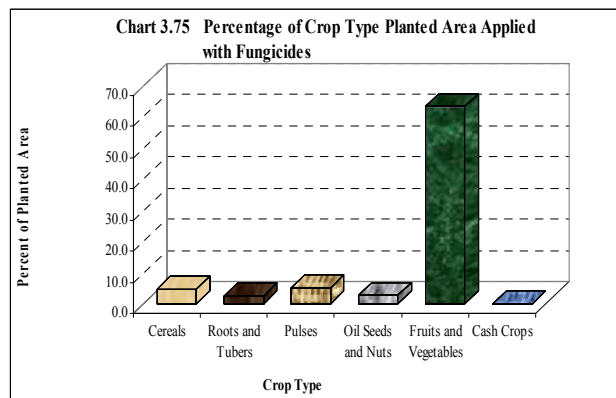
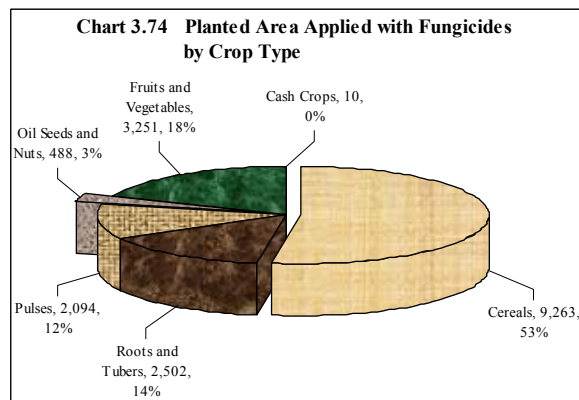
However, the percent of herbicide use on fruit and vegetables and pulses was much greater than in other crop types (2.8% and 2.3% respectively) while only 1.4 percent of roots and tubers was applied with herbicides (Chart 3.72). The top six annual crops with highest percentage use of herbicides in terms of planted area were spinach (5.4%), tomatoes (4.3%), simsim (3.7%), sunflower (3.3%), beans (2.4%) and cabbages (2.0%).

Tunduru had the highest percent of planted area with herbicides (2.7% of the total planted area with annual crops in the district). This was followed by Mbanga (2.5%) then Songea Urban (1.8%) and Namtumbo (0.4%). The smallest percentage use was recorded in Songea Rural district (0.3%) (Chart 3.73).



3.5.5.3 Fungicide Use

The planted area applied with fungicides was 17,431 ha which represented 4.9 percent of the total planted area for annual crops and vegetables. There was no fungicide use during the dry season. Cereals had the largest planted area applied with fungicides (9,263ha, 53%) followed by fruits and vegetables (3,251 ha, 18%), roots and tubers (2,502 ha, 14%), pulses (2,502 ha, 12%) and oil crops (488 ha, 3%). The lowest was cash crops (10 ha,0.1%)(Chart 3.74).



However, the percentage use of fungicide in fruits and vegetables and pulses was much greater than in other crop types (34.2% and 2.8% respectively), while only 1.4 percent of roots and tubers was applied with fungicides (Chart 3.75). There was no more than 40 percent fungicide use in Ruvuma region.

Mbinga had the highest percent of planted area with insecticides (5.3% of the total planted area with annual crops in the district). This was followed by Tunduru (3.5%) and Namtumbo (2.1%). The smallest percentage use was recorded in Songea Urban district (0.7%) (Chart 3.76).

3.5.6 Harvesting Methods

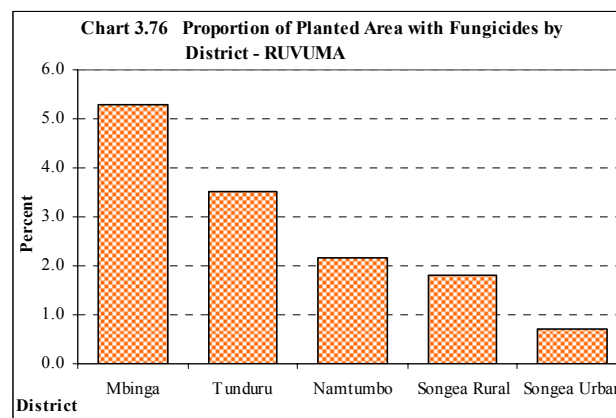
The main harvesting method for cereals was reported to be by hand. Very small amounts of maize were harvested by machine (0.01%) All other cereals and annual crops were harvested by hand.

3.5.7 Threshing Methods

Hand threshing was the most common method used, with 73 percent of the total area planted with cereals during the wet season being threshed by hand. Draft animals, engine driven machines and human powered tools were only used on crops harvested from 0.1 percent and 2.4 percent of the total planted area respectively.

3.6 Irrigation

Water is the limiting factor to crop production in the majority of areas in Tanzania and without water most other agricultural practices applied to crops do not result in significant increases in yields. This section deals with the area under irrigation for different crops and the means by which water was extracted from the source and applied to the field.



3.6.1 Area Planted with Annual Crops and Under Irrigation

In Ruvuma region, the area of annual crops under irrigation was 9,104 ha representing 3 percent of the total area planted (Chart 3.77). The area under irrigation during the wet season was 15 ha accounting for 0.16 percent of the total area under irrigation.

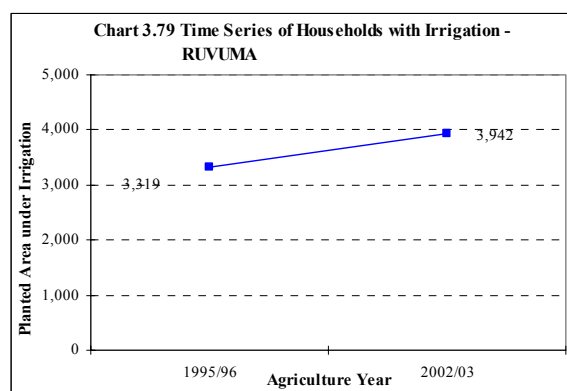
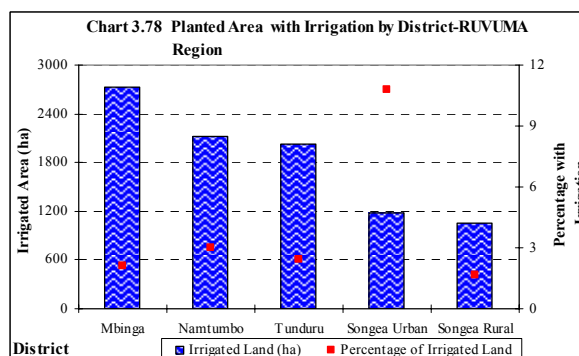
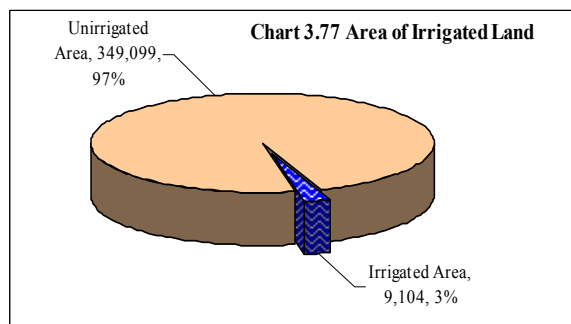
The district with the largest planted area under irrigation with annual crops was Mbinga (2,731 ha, 30% of the total irrigated planted area with annual crops in the region). This is followed by Namtumbo with (2,122 ha, 23%) and then Tunduru (2,025 ha, 22%). When expressed as a percentage of the total area planted in each district, Songea Urban had the highest with 10.8% of the planted area in the district under irrigation. This is followed by Namtumbo (3.0%), Tunduru (2.4%), Mbinga (2.1%) and Songea Rural (1.7%) (Chart 3.78 and Map 3.36).

Of all the different crops and in terms of proportion of the irrigated planted area, egg plant was the most irrigated crop with 100 percent irrigation followed by carrot (99%), chillies (98%), cabbage (91%) and amaranths (77%).

In terms of crop type, the area under irrigation with cereals was 3,880 ha (4% of the total area under irrigation), followed by fruit and vegetables (3,580 ha, 4%), pulses (772 ha, 1%) and roots and tubers (171 ha, 0.05%). All of the irrigation on cereals was applied to maize, paddy, sorghum and finger millet.

The area of fruit and vegetables under irrigation was 3,580 ha which represents 70 percent of the total planted area with fruit and vegetables. Tomatoes, cabbages and onions were the most irrigated crops.

The number of households practicing irrigation in Ruvuma region appears to have increased over the 10 year intercensal period from 3,319 households in 1995/96 to 3,942 households in 2002/03. This may not be statically significant due to the small number of households sampled with irrigation.



3.6.2 Sources of Water Used for Irrigation

The main source of water used for irrigation was obtained from river (64% of households with irrigation). This was followed by canals (23%) and wells (7%). Only 0.3 percent of the households used water from boreholes and the percents of households that used dams, pipe water and lakes as a source of water for irrigation were (3%, 2% and 1% respectively).

3.6.3 Methods of Obtaining Water for Irrigation

Hand bucket was the most common method of getting water for irrigation with 57.2 percent of households using this method. This was closely followed by gravity with 41.3 percent of households. The remaining methods (motor pump and others) were of minor importance (Chart 3.81).

Hand bucket was used by most households with irrigation in Mbinga (43.9%), followed by Tunduru (19.9%), Songea Rural (16.8%), Songea Urban (10.7%) and Namtumbo (8.7%). Gravity was more common in Namtumbo with 30.5 percent of households using the method to get water for irrigation, followed by Mbinga (26.9), Songea Rural (19.5%), Songea Urban (13.5%) and Tunduru (9.5%).

3.6.4 Methods of Water Application

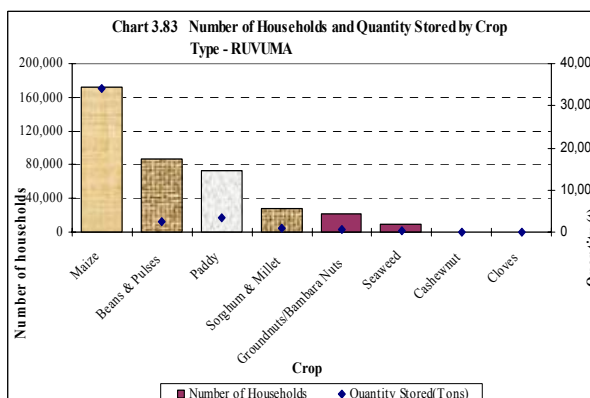
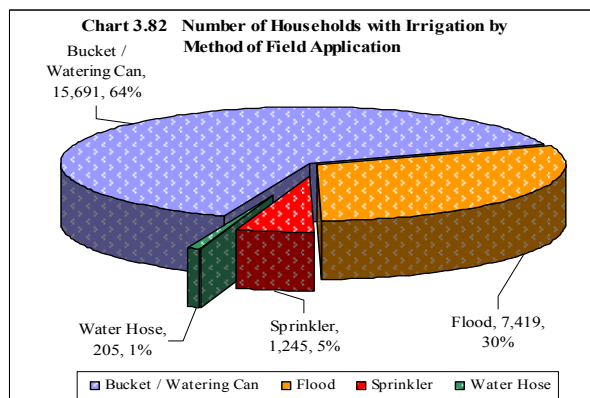
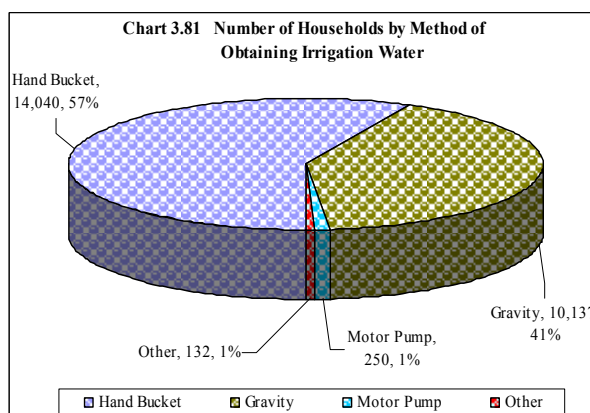
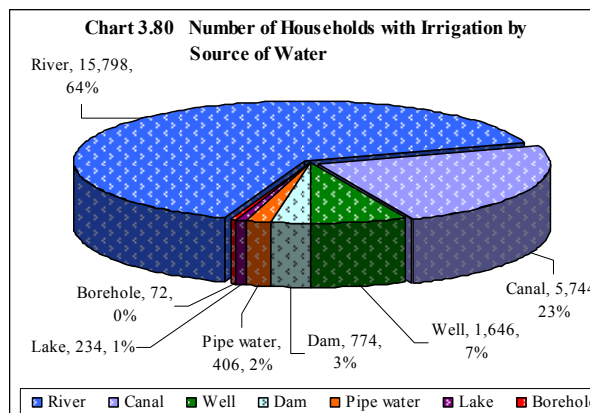
Most households used bucket/watering can irrigation (64% of households using irrigation) as a method of field application. This was followed by flood (30%) Sprinklers (5%) and water hose (1%).

3.7 Crop Storage, Processing and Marketing

3.7.1 Crop Storage

Crop storage means keeping a crop for a certain period of time as food for the household, in order to sell at higher prices or as seed for planting in the following season.

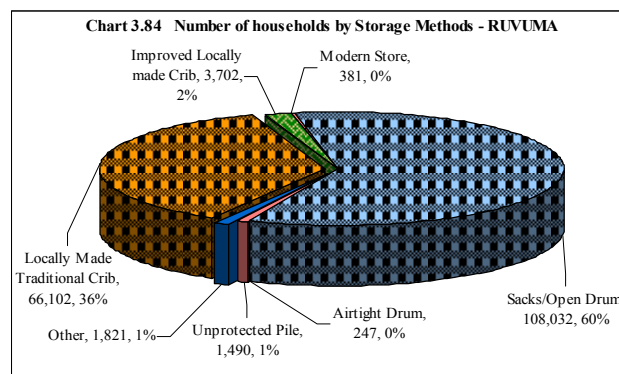
The results for Ruvuma region show that there were 181,775 crop growing households that stored various agricultural products in the region.



The most important stored crop was maize with 172,771 households storing 34,081 tonnes as of 1st January 2004. This was followed by paddy (72,495 households, 3,273t), beans and other pulses (86,592 households, 2,599), sorghum and millet (27,879 households, 910t), groundnuts and bambara nuts (21,827 households, 469t) and seaweed (8,550 households, 461t). Other crops were stored in very small quantities.

3.7.1.1 Methods of Storage

The region had 108,032 crop growing households storing their produce in sacks/open drum (60% of households that stored crops in the region). The number of households that stored their produce in locally made traditional structure was 66,102 (36%). This was followed by : improved locally made structures (3,702households, 2%) other (1,821 households, 1%) unprotected piles (1,490 households, 1%), , modern stores (381 households, recorded 0%), air tight drums (247 households, also recorded 0%).



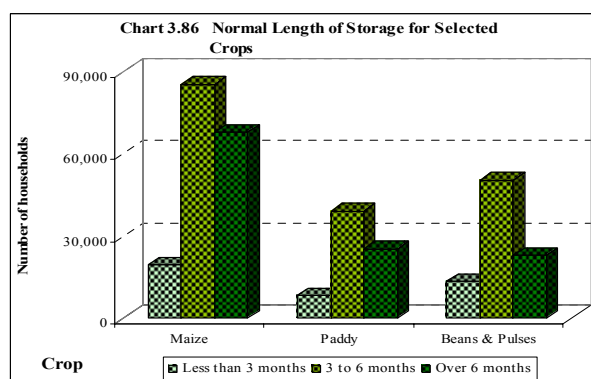
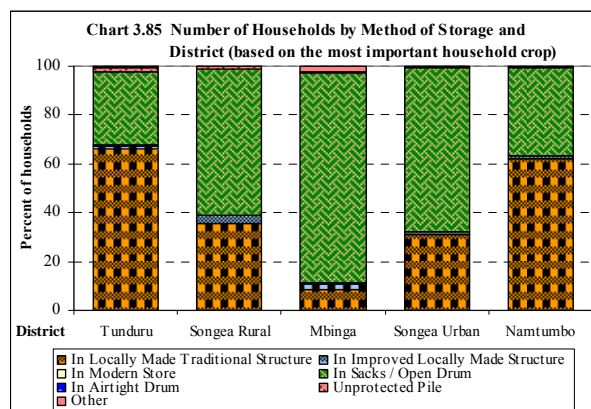
Sacks/open drum were the dominant storage method in all districts, with the highest percent of households in Mbinga using this method (86% of the total number of households storing crop products). This was followed by Songea Urban (67%), Songea Rural (60%), Namtumbo (36%) and Tunduru (30%) (Chart 3.85).

The highest percent of households using locally made traditional structure were in Tunduru (66 % of households storing crops) and Namtumbo (62%), followed by Songea Rural (36%), Songea Urban (31%) and Mbinga (8%).

3.7.1.2 Duration of Storage

Most households (49% of the households storing crops) stored their produce for a period of 3 to 6 months followed by those who stored them for a period of over 6 months. The minority of households stored their crops for a period of less than 3 months (12%).

Most households that stored pulses stored them for a period of 3 to 6 months followed by over 6 months. A small number of households stored pulses for the period of less than 3 months (Chart 3.86).



The proportion of households that stored their produce for the duration of 3 to 6 months was highest in Mbinga district (58%) followed by Tunduru (52%), Namtumbo (39%), Songea Rural (37%) and Songea Urban (36%) (Map 3.37).

District comparison of duration of storage cannot be done for all crops combined. However, the analysis has been done for maize only as it is the most commonly stored crop. In general, quantity stored was related to the quantity produced. Districts with greater production had a higher percent of their crop stored as on 1st October 2003 (Chart 3.87).

3.7.1.3 Purposes of Storage

Subsistence food crops (maize, paddy, sorghum and millet, beans and pulses) are mainly stored for household consumption. The percent of households that stored maize for household consumption as the main purpose of storage was 92.4 percent followed by seed for planting. Practically all stored cash crops, were stored for selling at higher price. A high percent of the stored permanent crops was for selling at higher price, in case of cloves (100%) and seed for planting in case of cashewnuts (68.4%). In case of cashewnuts it was followed by selling at higher price (31.6%) (Chart 3.88).

3.7.1.4 The Magnitude of Storage Loss

About 86 percent of households that stored crops had little or no loss, however the proportion of households that experienced a loss of more than a quarter was higher for food crops than crops that are produced for sale such as coffee, tobacco, cashew nut, groundnut and bambara nuts.

The proportion of households that reported a loss of more than a quarter was greatest for maize (3.1% of the total number of households that stored crops). This was followed by beans and pulses (2.4%), paddy (1.5%) and groundnuts and bambaranuts (1.0%). All households that stored cash crops such as seaweed, cloves, cashew nut and tobacco had no loss. Most households storing groundnuts and bambara nuts had little or no storage loss (88%) (Table 3.11).

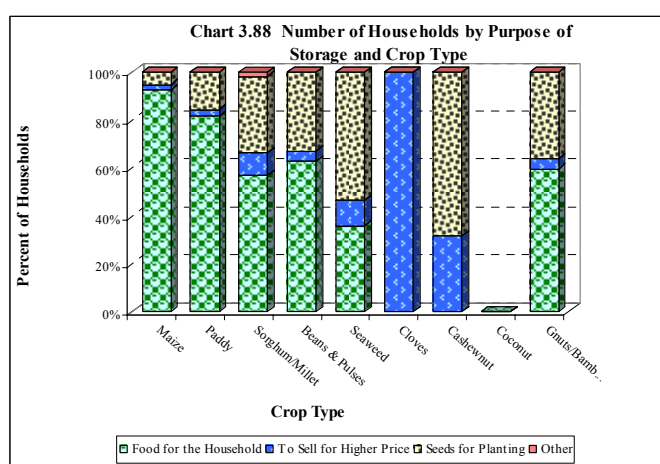
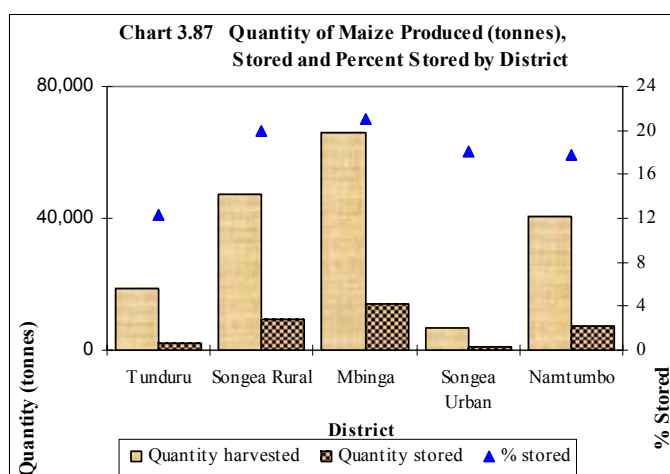
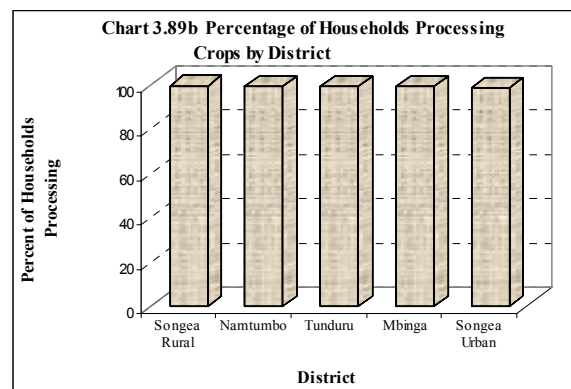
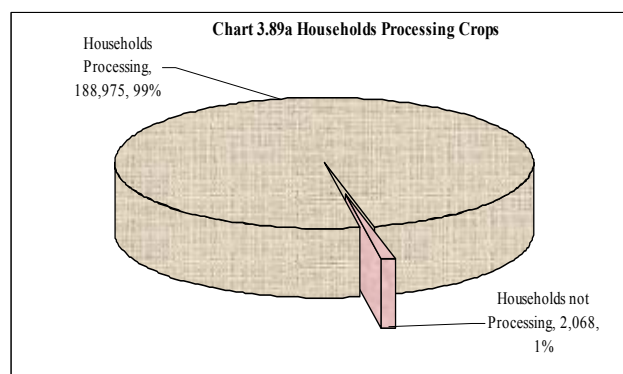


Table 3.11: Number of Households Storing Crops by Estimated Storage Loss and Crop

Crop	Estimate Storage Loss								Total Number of Households
	Little or no Loss		Up to 1/4 Loss		Between 1/4 and 1/2 Loss		Over 1/2 Loss		
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	
Maize	147,610	85.4	19,919	11.5	3,654	2.1	1,661	1.0	172,844
Paddy	66,700	91.6	5,056	6.9	1,067	1.5	0	0.0	72,823
Sorghum & Millet	26,626	95.3	1,069	3.8	255	0.9	0	0.0	27,950
Beans & Pulses	78,470	90.5	6,177	7.1	1,636	1.9	412	0.5	86,695
Seaweed	8,473	99.1	77	0.9	0	0.0	0	0.0	8,550
Cloves	128	100.0	0	0.0	0	0.0	0	0.0	128
Cashewnut	337	100.0	0	0.0	0	0.0	0	0.0	337
Tobacco	0	0.0	0	0.0	0	0.0	0	0.0	0
Coconut	0	0.0	0	0.0	0	0.0	0	0.0	0
Groundnuts/Bambara Nuts	19,457	88.8	2,234	10.2	209	1.0	0	0.0	21,900

3.7.2 Agro processing and By-products

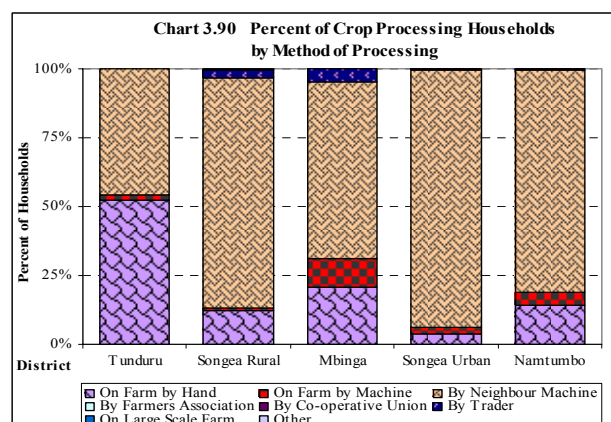
Agro processing refers to a process that converts a crop product from one form to another form in order to add value or increase the palatability of the crop. Agro-processing was practiced in most crop growing households in Ruvuma region (188,975 households, 99% of the total crop growing households) (Chart 3.89a).



The percent of households processing crops was very high in most districts (above 98%). Songea Urban had the lowest percent of households processing crops (98% of crop growing households) (Chart 3.89b).

3.7.2.1 Processing Methods

Most crop processing households processed their crops using neighbour's machines representing 66 percent (125,177 households). This was followed by those processing on-farm by hand (48,305 households, 26%), on-farm by machine (10,442 households, 6%) and by trader (4,328 households, 2%). The remaining methods of processing were used by very few households (less than 1%).

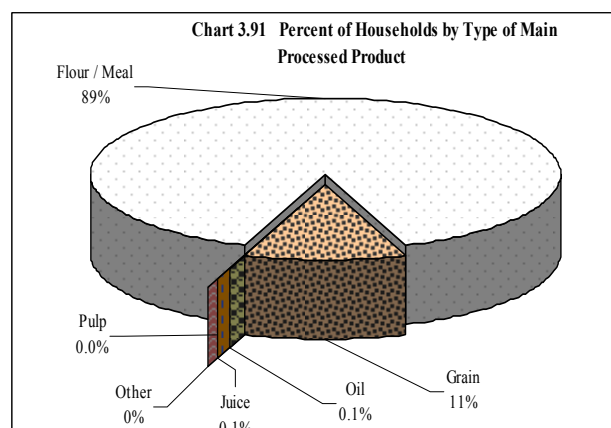


Although processing by machine was the most common processing method in all districts in Ruvuma region, district differences existed. Tunduru had a higher percent of hand processing than other districts (52%), followed by Mbinga (21%) and Namtumbo (14%). Processing by on farm by machine was more common in Mbinga and Namtumbo (10% and 4% respectively), whilst processing on farm by trader was more prevalent in Mbinga and Songea Rural (Chart 3.90).

3.7.2.2 Main Agro-processing Products

Two types of products can be produced from agro-processing namely, the main product and the by-product.

The main product is the major product after processing and the by-product is secondary after processing. For example the main product after processing maize is normally flour whilst the bi-product is normally the bran.



The main processed product was flour/meal with 168,023 households processing crops into flour (89%) followed by grain with 20,713 households (11%). The remaining products were produced and by a small numbers of households (Chart 3.91).

The number of households producing by-products accounted for 91.8 percent of the households processing crops. The most common by-product produced by crop processing households was bran with 152,339 households (88%) followed by Husks (20,484 households, 12%). The remaining by-products were produced by a small numbers of households (Chart 3.92).

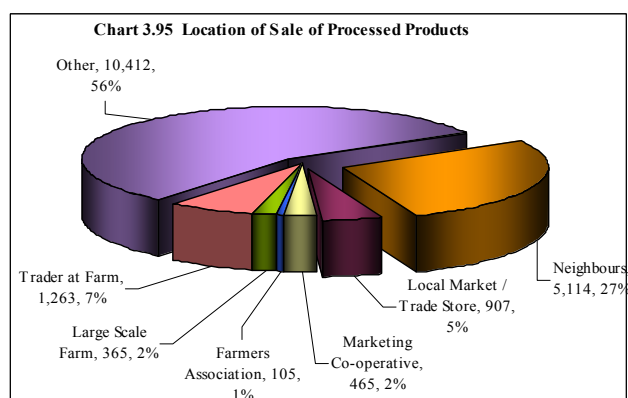
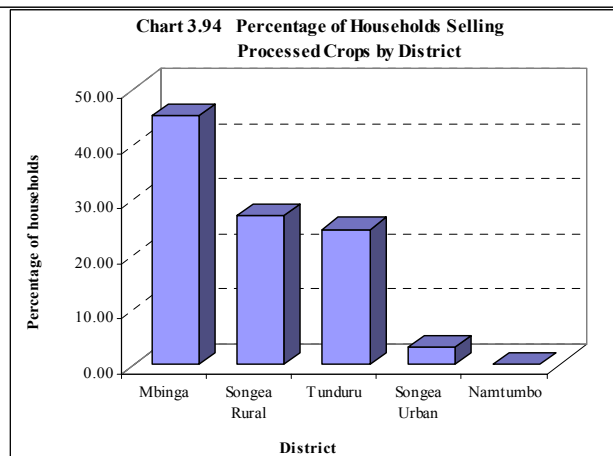
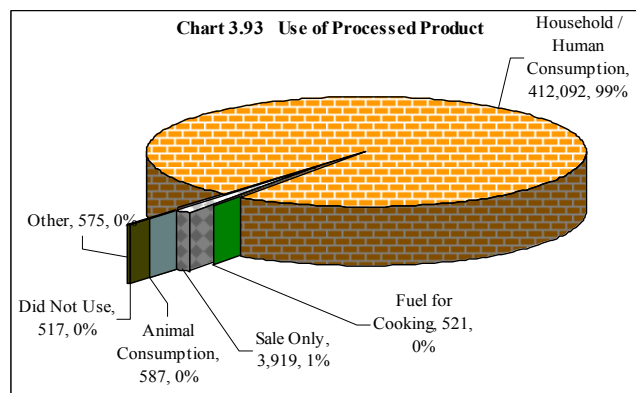
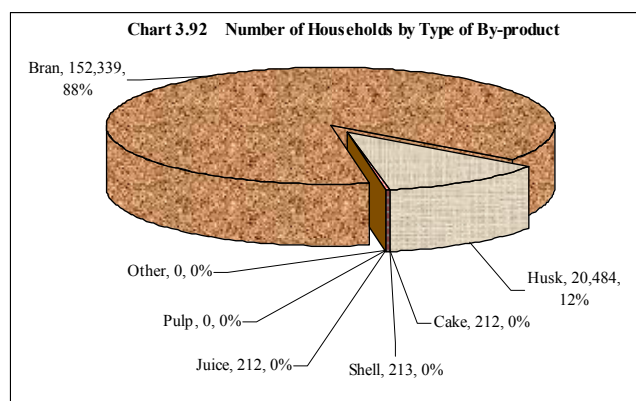
3.7.2.3 Main Use of Primary Processed Products

Primary processed products were used for households or human consumption, fuel for cooking, for selling and for animal consumption. The most main use was household/human consumption which accounted for 99 percent of the total households that used primary processed product (Chart 3.93). Mbinga was the only district that used primary products as fuel for cooking.

Out of 854 households that sold processed products, 386 were from Mbinga (45% of the total number of households selling processed products in the region), followed by Songea Rural with 231 households (27.0%), Tunduru with 210 households (24.6%) and Songea Urban with 27 households (3.1%) (Chart 3.94). Compared to other districts in Ruvuma region, Mbinga had the highest percent of households that sold processed products. This is followed by Songea Rural (0.76), Songea Urban (0.39%) and Tunduru (0.28%).

3.7.2.4 Outlets for Sale of Processed Products

Most households that sold processed products sold to others (10,412 households, 56% of households that sold crops). This was followed by selling to neighbours (5,114 households, 27%), trader at farm (1,263 households, 7%), local market and trade stores (907 households, 5% of households that sold crops), marketing co-operatives (465 households, 2%), large scale farm (365 households, 2%) and Farmers Associations (105 households, 1%) (Chart 3.95).



There are large differences between districts in the proportion of households selling processed products to neighbours with Songea Urban district having the largest percent of households in the district selling to neighbours (62%), whereas Namtumbo had only 9 percent. Songea Urban had a higher percent of households relying on local markets/trade stores than other outlets.

Compared to other districts, Songea Rural had the highest percent of households selling processed products to traders at farm. In Tunduru, the sale of processed produce to farmer associations was most prominent compared to other districts. The districts that had the highest proportion of households selling processed products to marketing cooperative were Namtumbo and Tunduru.

3.7.3 Crop Marketing

The number of households that reported selling crops was 176,924 which represent 92.6 percent of the total number of crop growing households. The percent of crop growing households selling crops was highest in Tunduru (96%) followed by Namtumbo (94%), Mbinga (91%), Songea Rural (91%) and Songea Urban (82%) (Chart 3.97 and Map 3.38).

3.7.3.1 Main Marketing Problems

Low price for agricultural produce was the main marketing problem reported by households (84% of crop growing households). Apart from low market prices, other problems were high transport costs (6%), longer distances to the markets (5%), lack of transport (1%), lack of market information (1%) and lack of buyers (1%) and. Other marketing problems are minor and represented less than 1 percent of the total reported problems.

3.7.3.2 Reasons for Not Selling Crops

The main reason for not selling crops was reported as “insufficient production to sell”, representing 89 percent of the smallholders. The remaining reasons for not selling are in such low numbers that it is not appropriate to rank their importance (Table 3.12). This general trend applies to all districts except for Songea Rural and Tunduru where the proportion of households reporting other reasons for not marketing their agricultural products is relatively high (2.4% and 1.9% respectively).

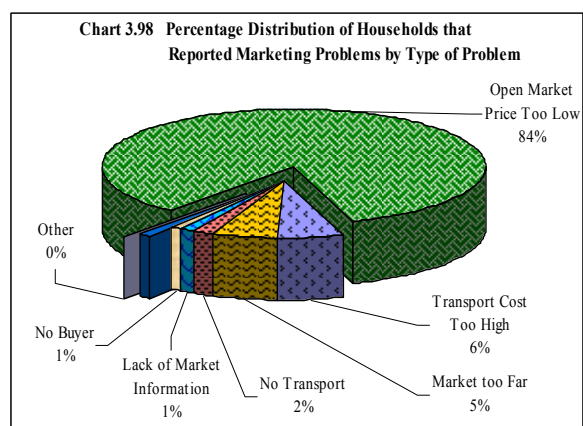
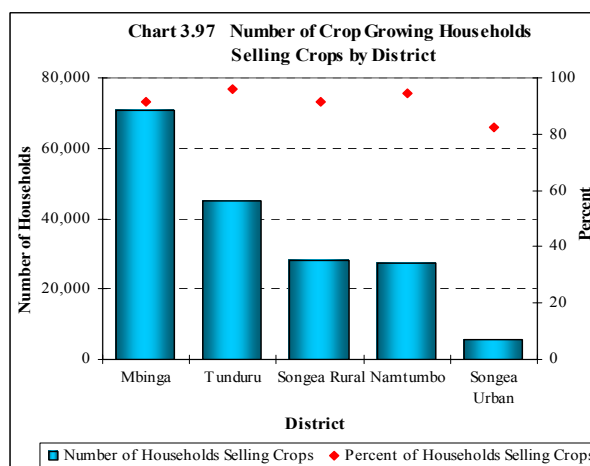
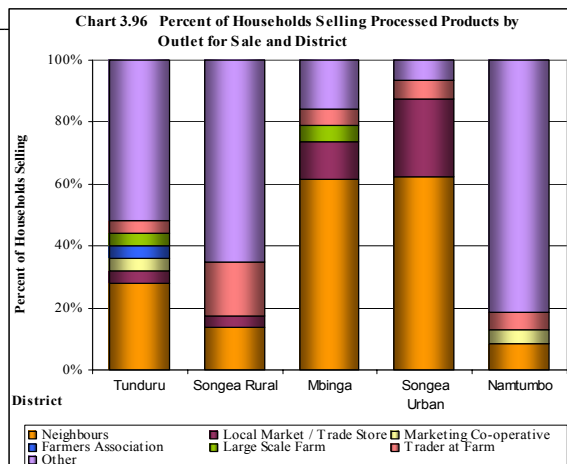


Table 3.12 Reasons for Not Selling Crop Produce

Main Reason	Household Number	%
Production Insufficient to Sell	26,823	88.5
Price Too Low	1,156	3.8
Trade Union Problems	942	3.1
Market Too Far	518	1.7
Co-operative Problems	498	1.6
Other	303	1.0
Farmers Association Problems	72	0.2
Total	30,314	100.0

3.8 Access to Crop Production Services

3.8.1 Access to Agricultural Credit

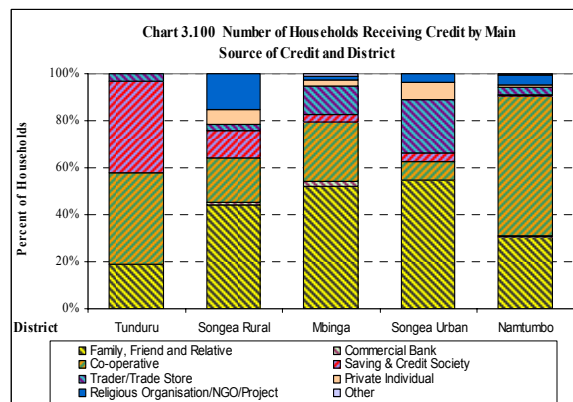
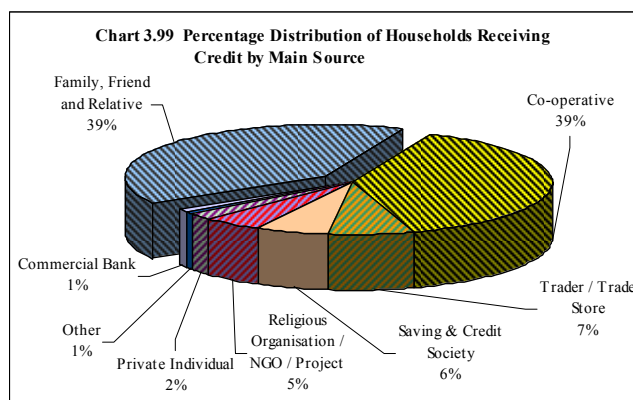
The census result shows that in Ruvuma region a considerable number of agricultural households (38,567, 18.6%) accessed credit out of which 32,939 (85%) were male-headed households and 5,628 (15%) were female headed households. In all districts both male and female headed households accessed agricultural credit (Table 3.13).

3.8.1.1 Source of Agricultural Credit

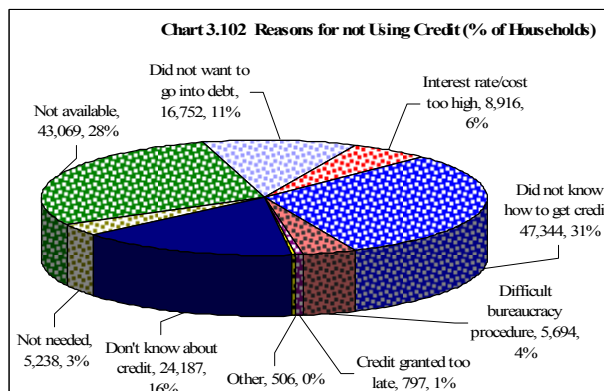
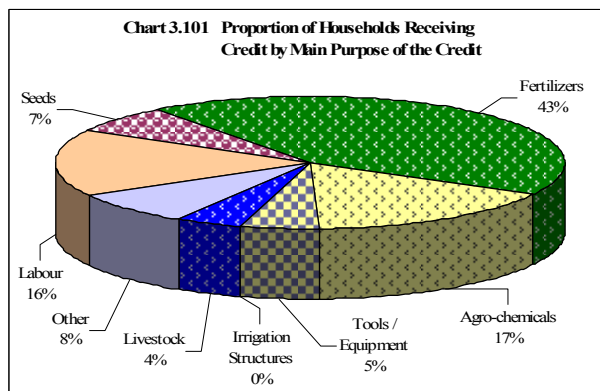
The major agricultural credit provider in Ruvuma region were family, friends and relatives which collectively provided credit to 15,355 agricultural households (39% of the total number of households that accessed credit), followed by co-operative (39%), trader/trade store (7%), saving and credit society (6%), religious organizations/non governmental organizations/ projects (5%), private individual (2%), commercial bank (1%) and other sources (1%) (Chart 3.99). Commercial banks provided credit to very few households in Songea Rural and Mbinga. Savings and credit societies provided credits in all districts except Namtumbo. Trader/trader store provided credits to a small number of households in Tunduru, Songea Rural and Namtumbo districts. Religious organization, cooperative provided credit in all districts while private individuals provided credit mainly in Songea Rural district. NGOs and projects funded a relatively large number of households in Songea Rural district (Chart 3.100).

Table 3.13 Number of Agricultural Households that Received Credit by Sex of Household Head and District

District	Male		Female		Total
	Number	%	Number	%	
Tunduru	2,992	93	212	7	3,204
Songea Rural	4,149	70	1,813	30	5,962
Mbinga	12,568	91	1,302	9	13,870
Songea Urban	566	78	161	22	727
Namtumbo	12,664	86	2,140	14	14,804
Total	32,939	85	5,628	15	38,567



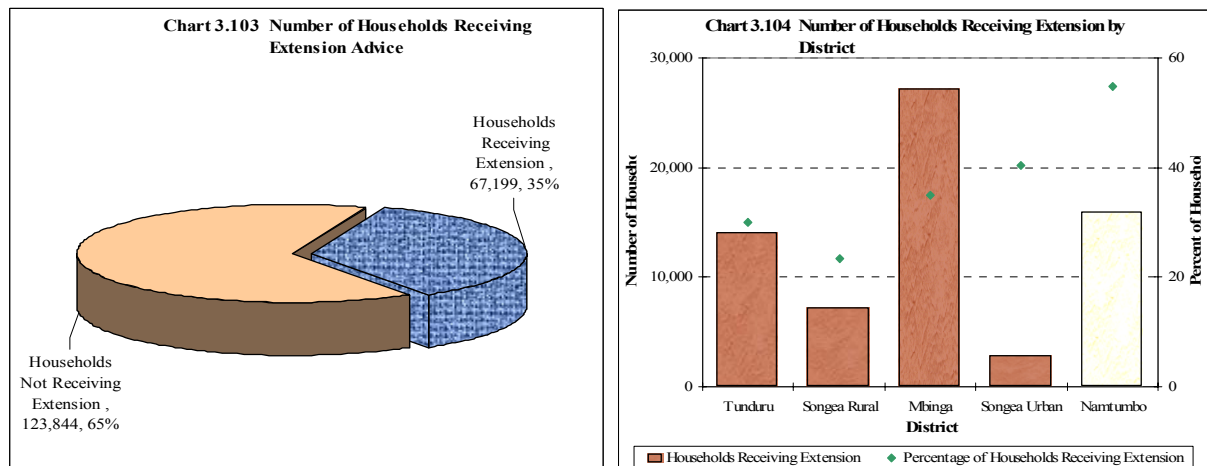
3.8.1.2 Use of Agricultural Credit



A large proportion of the agricultural credit provided to agricultural households in the region was used on fertilizers (43%), followed by agro-chemicals (17%) and hiring labour (16%). The proportion of credits intended to be used for livestock rearing, irrigation structures, tools, equipment, seeds and unspecified was very low (Chart 3.101).

3.8.1.3 Reasons for Not Using Agricultural Credit

The main reason for not using agricultural credit as a source of finance was little credit awareness accounting to 31 percent of the agricultural households (“did not know how to get credit” and “don’t know about credit”). This was



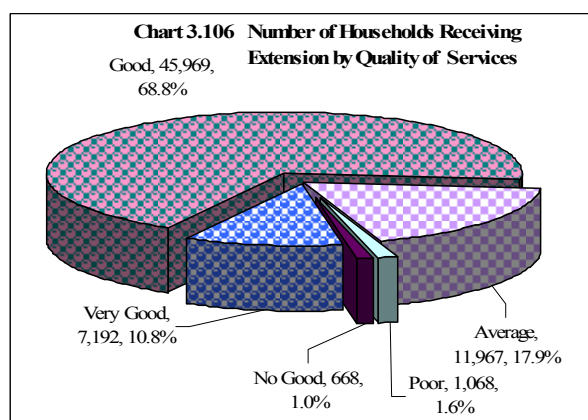
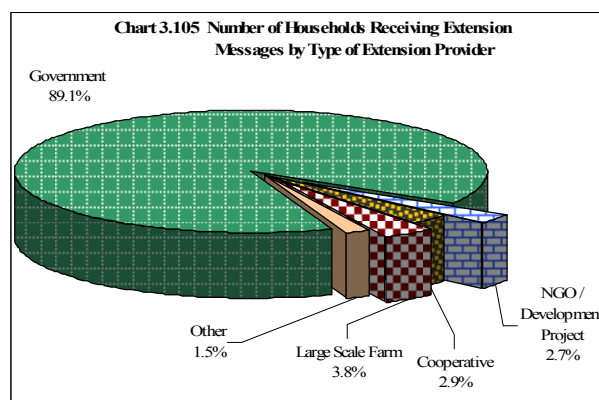
followed by households reporting the un-availability of credit (28%), “not wanting to go into debt” (11%) and interest too high (6%). The rest of the reasons were given by 8 percent of the households.

3.8.2 Crop Extension

The number of Agricultural households that received crop extension was 67,199 (35% of total crop growing households in the region) (Chart 3.103). Some districts had more access to extension services than others, with Namtumbo having a relatively high proportion of households (55%) that received crop extension messages followed by Songea Urban (40%), Mbinga (35%), Tunduru(30%) and Songea Rural (23%) (Chart 3.104 and Map 3.39).

3.8.2.1 Sources of Crop Extension Messages

Of the households receiving extension advice the Government provided the greatest proportion (89.1%, 59,075 households). Large scale farms 3.8 percent and cooperative 2.9 percent and the remaining sources provided 4.2 percent (Chart 3.105), however district differences did exist with the proportion of the households receiving advice from government services ranging from 83.3 percent in Mbinga to 93.6 percent in Tunduru.



3.8.2.2 Quality of Extension

On the quality of extension, 69percent of the households receiving extension ranked the service as being good followed by average (18 %), very good (11%), poor (1%) and no good (1%) (Chart 3.106). However, care should be exercised when making decisions on quality of extension and also other variables in the extension report as all the enumerators were extension agents and some degree of bias is expected.

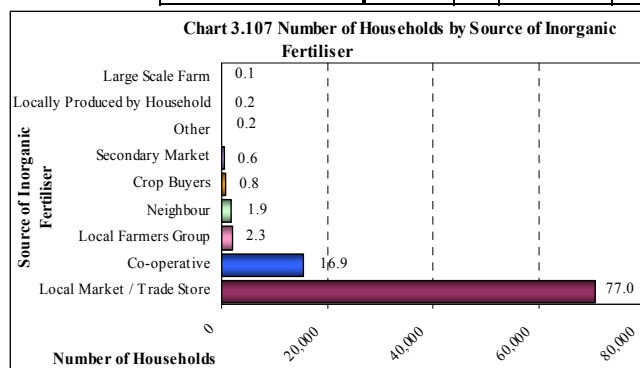
3.9 Access to Inputs

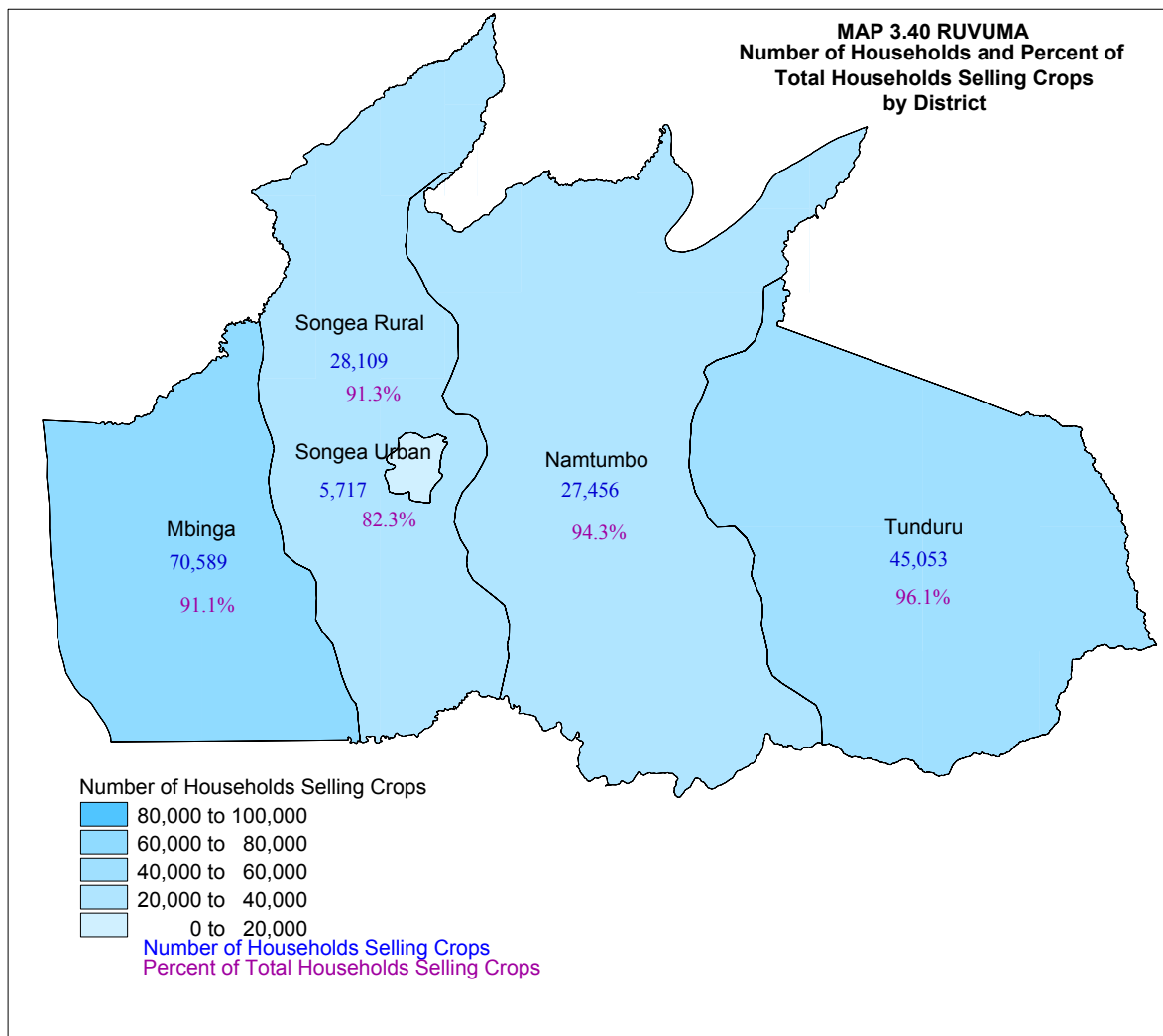
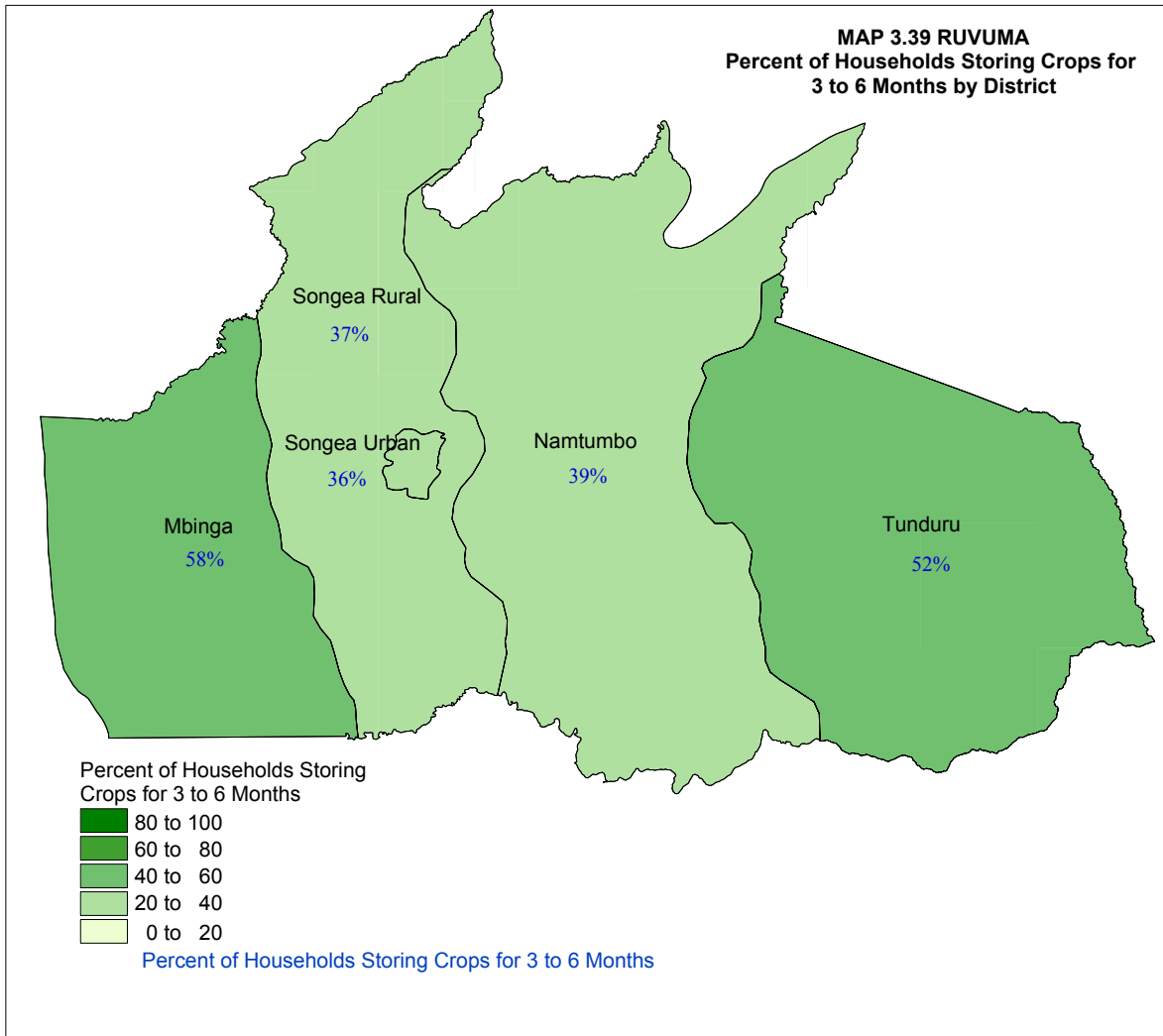
Access to inputs in this section refers to all crop growing households in Ruvuma Region regardless of whether the household grew annual or permanent crops. In previous sections the reference was on annual crops only. Because of this, some of the figures presented in this section may be slightly different from those in the previous section on inputs use (Section 3.5). Data on source of inputs is only found in this section and it applies to both annual and permanent crops.

A small number of households used inputs and this was particularly true for inputs that are not produced on farm i.e., improved seeds, fungicides, inorganic fertilisers and herbicides. In Ruvuma region inorganic fertiliser were used by 91,930 households which

Table 2.14 Access to Inputs

Type of Input	Households With Access to Inputs		Households Without Access to Inputs	
	Number	%	Number	%
Farm yard manure	61,064	31.9	129,979	68.0
Improved seeds	26,646	13.9	164,397	86.1
Insecticides/Fungicide	65,929	34.5	125,114	65.5
Compost	6,305	3.3	184,738	96.7
Inorganic fertilizers	91,930	48.1	99,113	51.9
Herbicide	2,011	1.1	189,032	98.9



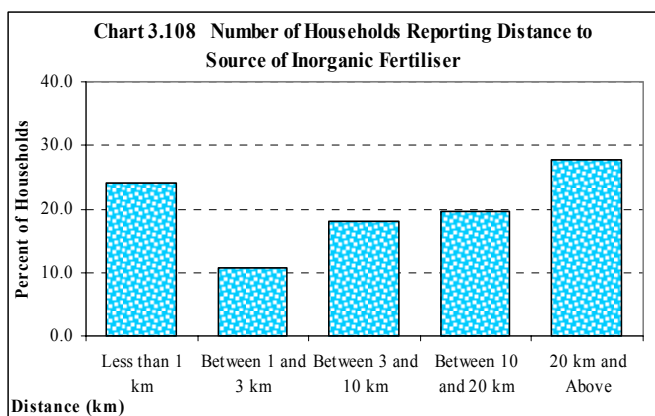


represents 48.1 percent of the total number of crop growing households. This was followed by households using fungicides (34.5%), farm yard manure (31.9%), improved seeds (13.9%), compost (3.3%) and herbicide (1.1%) (Table 2.14).

3.9.2 Inorganic Fertilisers

Smallholders that used inorganic fertilisers in Ruvuma, mostly purchased them from the local market/trade store (77.0% of the total number of inorganic fertiliser users). The remaining sources of inorganic fertilisers were of minor importance (Chart 3.107).

Access to inorganic fertiliser was mainly above 3 km from the household with most households residing above 20 km from the source (28%), followed by less than 1 km (24%) and between 10 and 20 km (20%) (Chart 3.108). Due to the very small number of households using inorganic fertilisers coupled with the small number of households responding to “not available” (6%) as the reason for not using, it may be assumed that

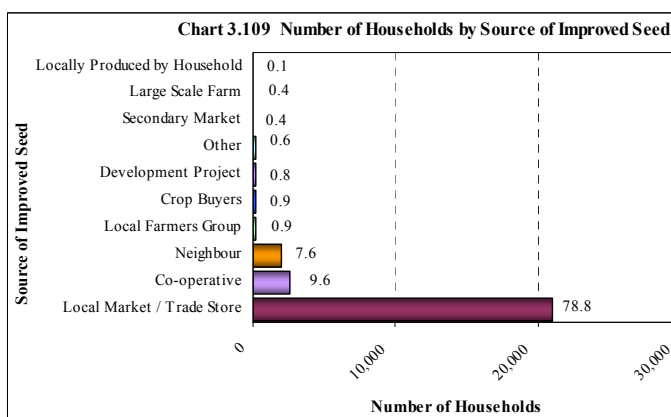


access to inorganic fertiliser was not the main reason for not using them. Other reasons such as cost were more important. In other words, if the cost was affordable the demand would be higher and inorganic fertiliser would be made more available.

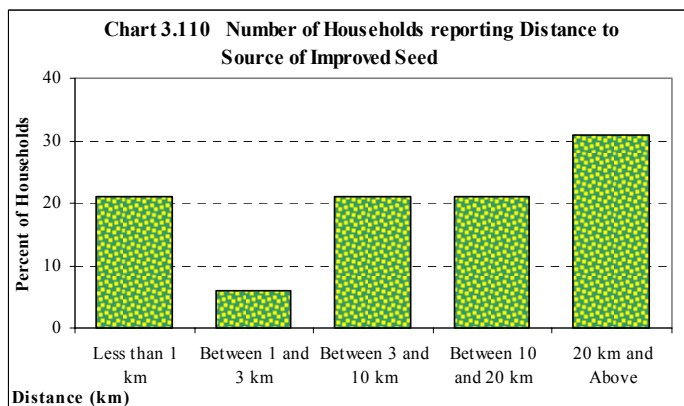
More smallholders used inorganic fertilisers in Songea Rural than in other districts in Ruvuma region (28% of households using inorganic fertilisers), followed by Namtumbo (26%), Mbinga (23%), Tunduru (16%) and Songea Urban (7.1%).

3.9.3 Improved Seeds

The percent of households that use improved seeds was 14 percent of the total number of crop growing households. Most of the improved seeds were obtained from the local market/trade store (78.8%). Other less important sources of improved seeds were cooperative (9.6%), neighbours (7.6%) and local farmers group (0.9%). Only 0.9 percent of households using improved seed obtained them from crop buyers (Chart 3.109).

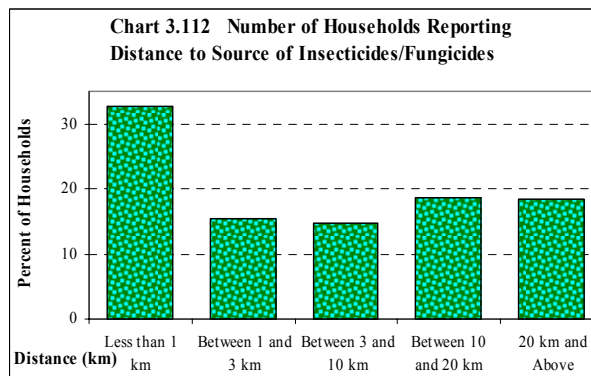
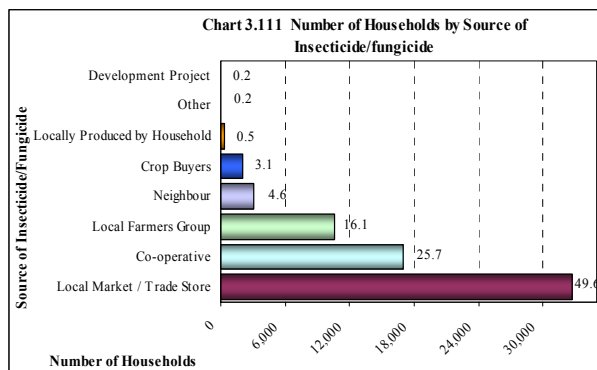


Access to improved seeds was poorer than access to chemical inputs with 31 percent of households obtaining from 20 km and above from the household (Chart 3.110). This is in line with the



higher use of chemical inputs compared to other improved seed, which further supports the contention that it is not the availability that is the main issue in the use of inputs but rather other factors such as cost.

The districts that used improved seeds most was Mbinga (37.7 percent of the total number of households using improved seeds in Ruvuma region), followed by Songea Rural (25.7%) and Namtumbo (18.6%). Use of improved seeds in other



districts is of minor importance (Map 3.40).

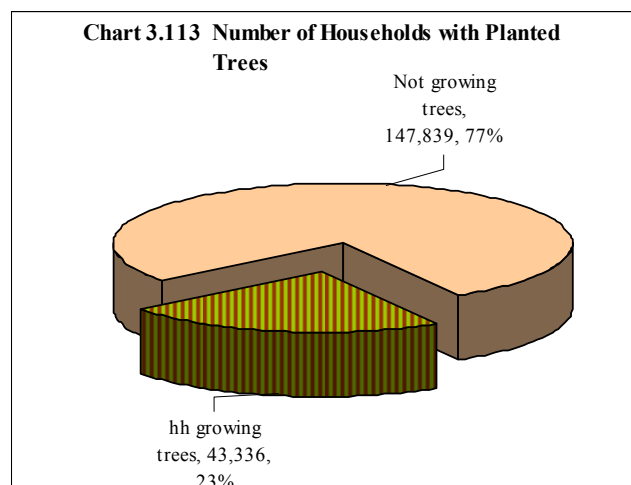
3.9.4 Insecticides and Fungicide

Most smallholder households using insecticides and fungicides mainly purchased them from local markets/trade stores (49.6% of the total number of fungicide users). This was followed by cooperative (25.7%), local farmers group (16.1%), neighbour (4.6%) and crop buyers (3.1%). Other sources of insecticides/ fungicides are of minor importance (Chart 3.111).

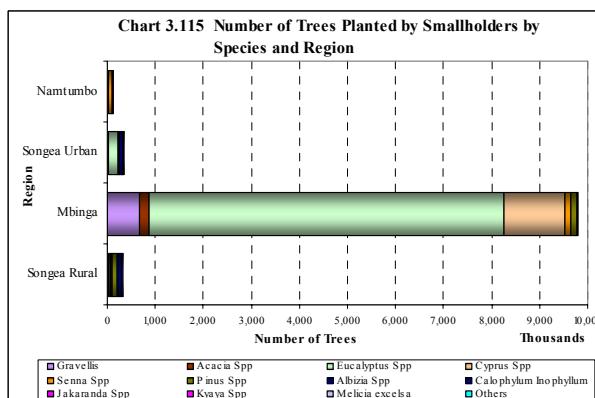
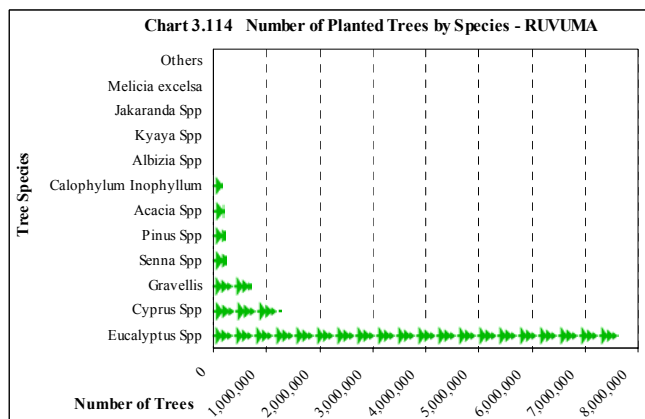
Chart 3.112 shows that there is no distinct pattern for the number of households with varying distances from the source of insecticide/fungicide. From the small number of households using insecticides/fungicides, coupled with the 34 percent of households responding to “not available” as the reason for not using it may be assumed that access was not the main reason for not using them. Other reasons such as cost were more important with 74 percent of households responding to cost factors as the main reason for not using them. In other words, if the cost was affordable, the demand would be higher and insecticides/fungicides would be made more available. Fungicides were used more in Mbinga district (57.9 percent of the total number of households that use fungicide in the region), followed by Tunduru (29.2%). Insecticides/fungicides use in other districts is of minor importance.

3.10 Tree Planting

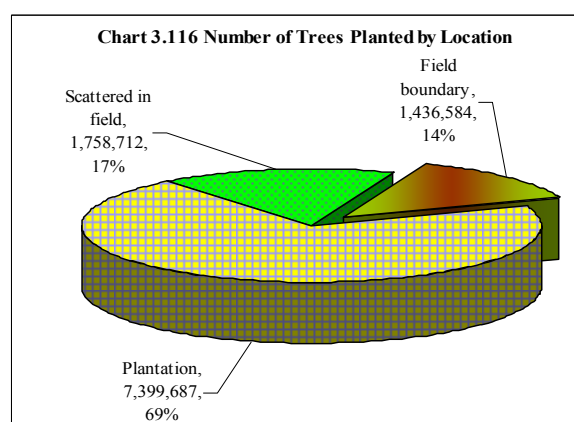
The number of households involved in tree farming was 43,315 representing 23 percent of the total number of agriculture households (Chart 3.113 and Map 3.41).



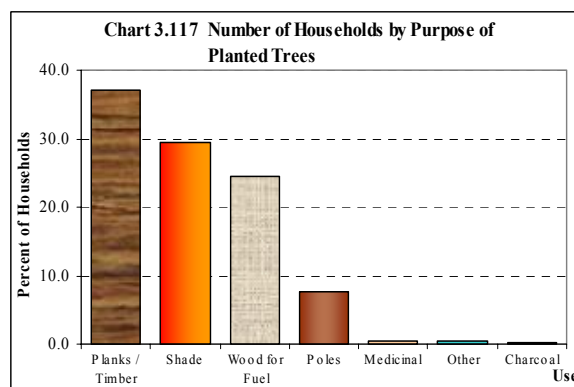
The number of trees planted by smallholders on their allotted land was 10,594,983 trees. The average number of trees planted per household planting trees was 245 trees.



The main specie planted by smallholders is eucalyptus spp (7,638,602 trees, 72.1%), followed by Cyprus spp (1,298,088 trees, 12.3%) and gravellis (714,902 trees, 6.7%), senna (243,200 trees, 2.3%), pinnus (224,651 trees, 2.1%), acacia (210,757 trees, 2.0%) and calophyllum inophyllum (173,727 trees, 1.6%). The remaining trees species are planted in comparatively small numbers (Chart114.). Mbinga has the largest number of smallholders with planted trees than any other district (92.5%) and is dominated by eucalyptus species. This is followed by Songea Urban (3.2%) which is dominated by eucalyptus. Then Songea Rural (3.0%) which is mainly planted with calophyllum inophyllum species and Namtumbo (1.2%) which is planted with senna species (Chart 3.115).



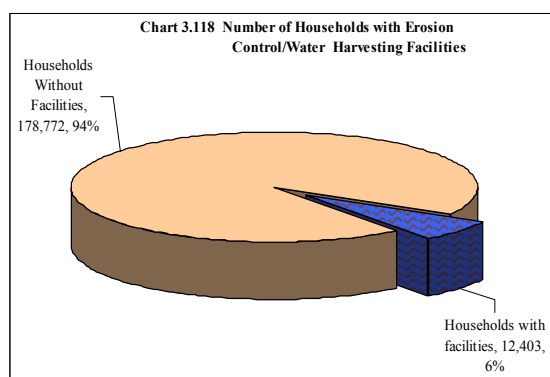
Most trees were planted on plantations or coppice. The proportion of trees that were planted on plantations was 69 percent, followed trees scattered around fields (17%) and then trees planted on the boundaries (14%) (Chart 3.116).



The main purpose of planting trees was to obtain planks/timber (37.2%). This is followed by shade (29.5%), wood for fuel (24.5%) and poles (7.6%) (Chart 3.117).

3.11 Irrigation and Erosion Control Facilities

Erosion control and water harvesting facilities are grouped together as they normally have dual purposes of reducing erosion and increasing the amount of water available for crop production.



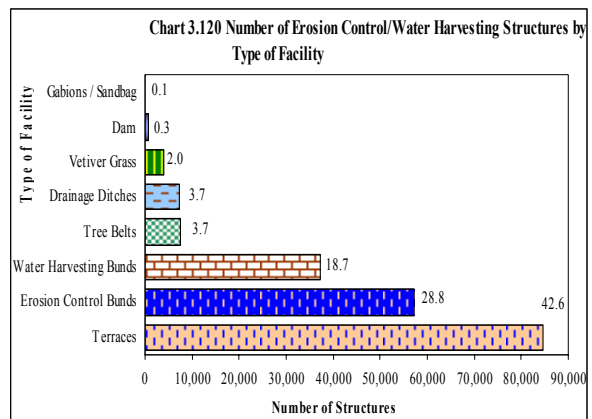
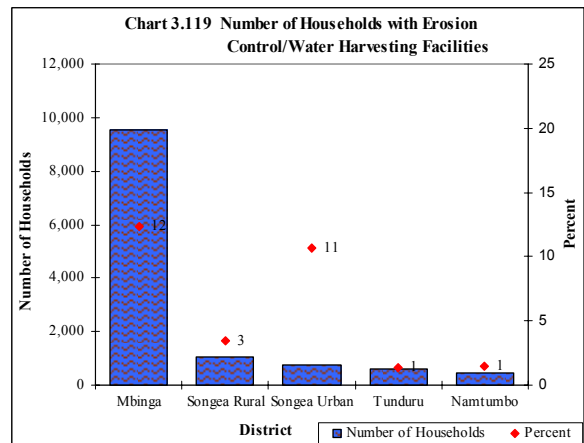
The number of agricultural households that had soil erosion and

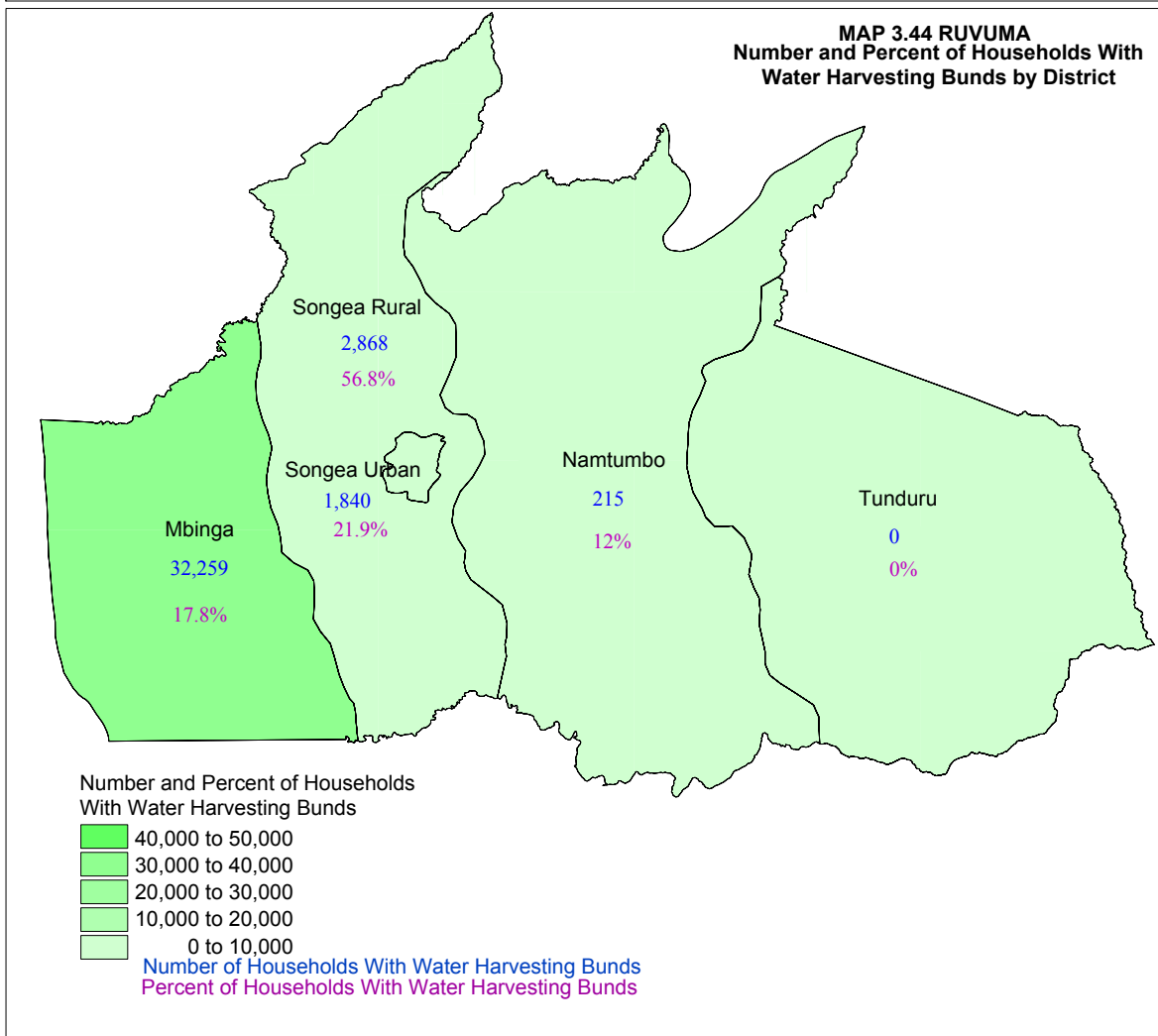
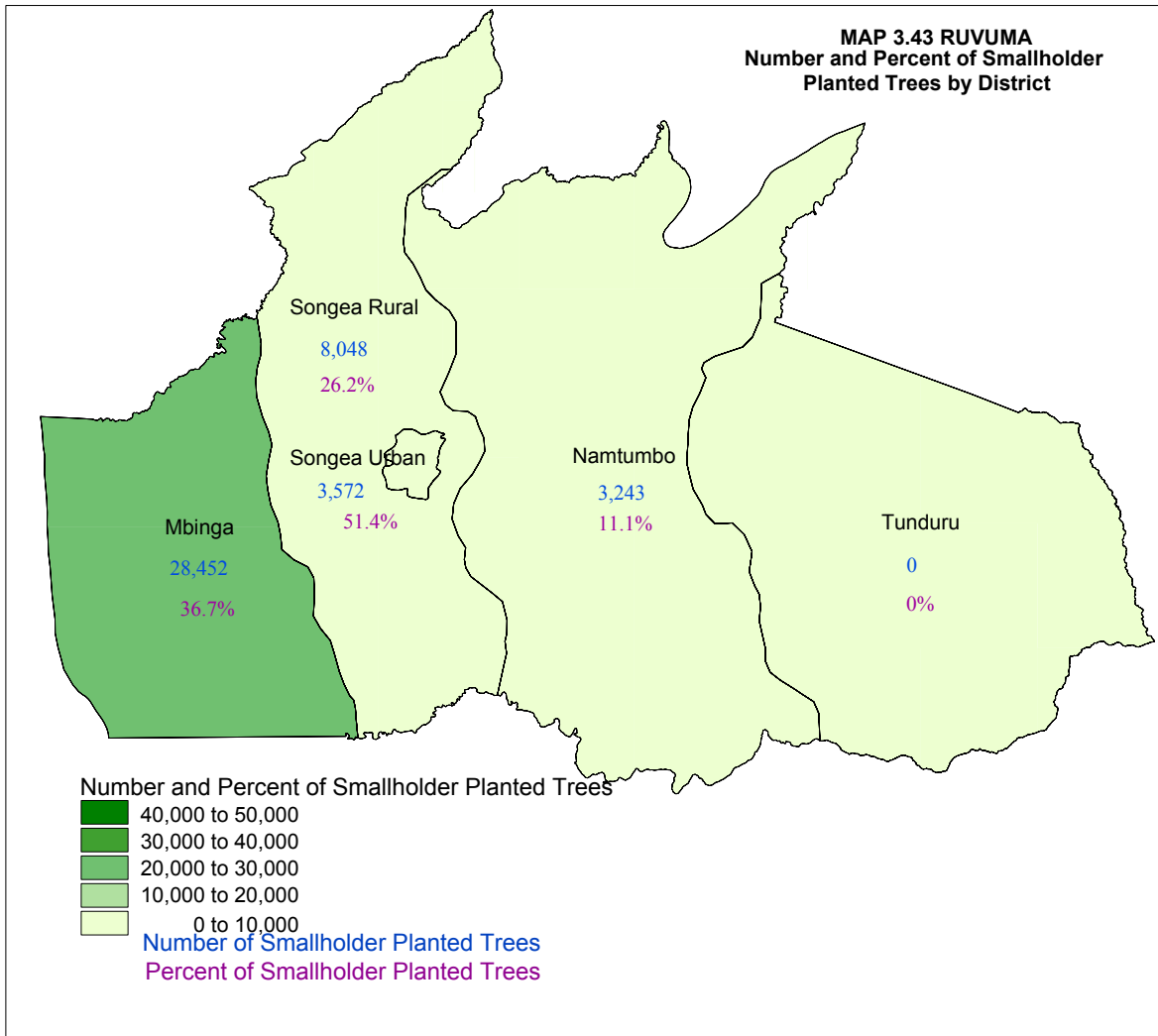
water harvesting facilities on their farms was 12,403 which represent 6 percent of the total number of agricultural households in the region (Chart 3.118).

The proportion of households with soil erosion control and water harvesting facilities was highest in Mbinga district (12%) followed by Songea Urban (11%), Songea Rural (3%), Namtumbo (1%) and Tunduru (1%) (Chart 3.119 and Map 3.42). Terraces accounted for 42.6 percent of the total number of structures, followed by erosion control bunds (28.8%), water harvesting bunds (18.7%), tree belts (3.7%), drainage ditches (3.7%), vetiver grass (2.0%), dams (0.3%) and gabions/sandbags (0.1%) (Chart 3.120).

Erosion control by terraces, erosion control bunds and water harvesting bunds together had 179,029 structures. This represented 90 percent of the total structures in the region. The remaining 10 percent was shared among the rest of the erosion control methods mentioned above.

Mbinga and Songea Rural districts had 10,617 erosion control structures (86 percent of the total erosion structures in the region).





3.12 LIVESTOCK RESULTS

3.12.1 Cattle Production

The total number of cattle in the region was 121,175. Cattle were the dominant livestock type in the region followed by goats, pigs and sheep. The region had 0.7 percent of the total cattle population on Tanzania Mainland.

3.12.1.1 Cattle Population

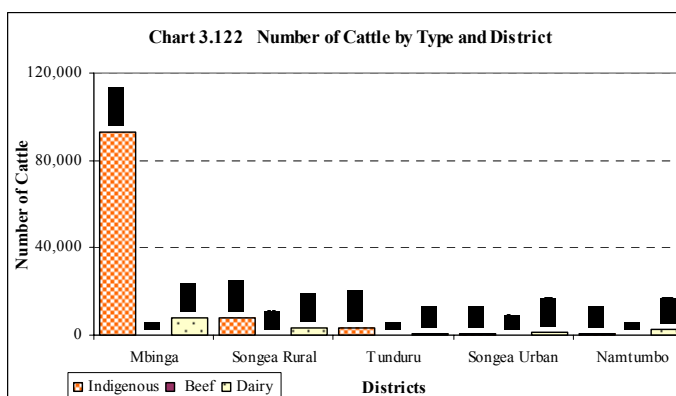
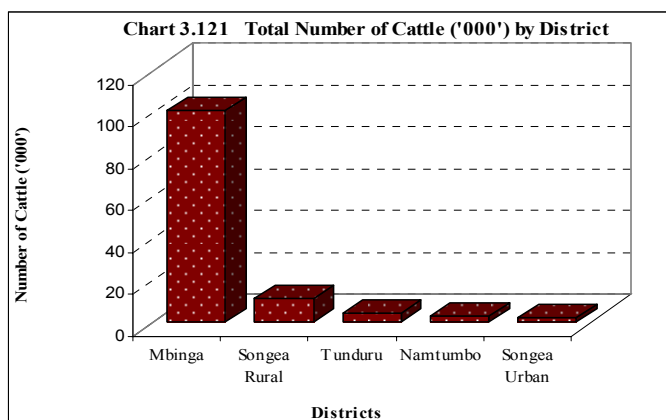
The number of indigenous cattle in Ruvuma region was 105,884 (87.4 % of the total number of cattle in the region), 15,111 cattle (12.5%) were dairy breeds and 181 cattle (0.1%) were beef breeds.

The census results show that 16,887 agricultural households in the region (8.8% of total agricultural households) kept 0.1 million cattle. This was equivalent to an average of 7 heads of cattle per cattle-keeping-household. The district with the largest number of cattle was Mbinga which had about 100,907 (83.3% of the total cattle in the region). This was followed by Songea Rural (11,164 cattle, 9.2%), Tunduru (4,040 cattle, 3.3%) and Namtumbo (2,815 cattle, 2.3%). Songea Urban district had the least number of cattle (2,250 cattle, 1.9%) (Chart 3.121 and Map 3.43). However Mbinga district had the highest density (23 head per km²) (Map 3.44).

Although Mbinga district had the largest number of cattle in the region, most of them were indigenous. The number of dairy cattle was very small and there were no beef cattle. However, Mbinga district had the largest number of dairy cattle in the region. In general, the number of beef cattle in the region was insignificant (Chart 3.122).

3.12.1.2 Herd Size

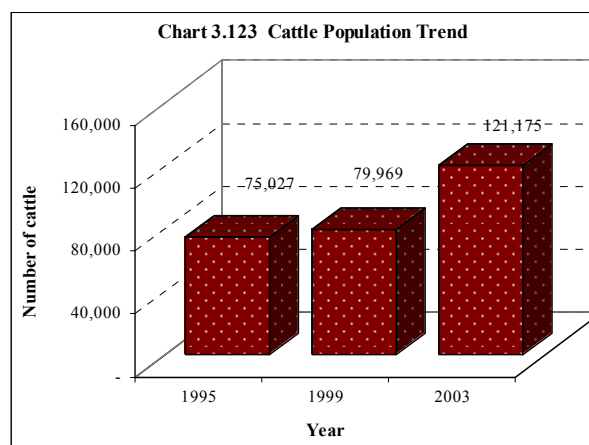
Ninety percent of the cattle-rearing households had herds of size 1-5 cattle with an average of two cattle per household. Herd sizes of 6-30 accounted for about 13 percent of all cattle in the region. Only 1 percent of the cattle rearing households had herd sizes of 31- 151 and above cattle. About 98.8 percent of total cattle rearing households had herds of size 1-30 cattle and owns 43 percent of total cattle in the region, resulting in an average of 3 cattle per cattle rearing household. There were about 129 households with a herd size of more than 151 cattle each (66,366 cattle in total) resulting in an average of 513 cattle per household.



3.12.1.3 Cattle Population Trend

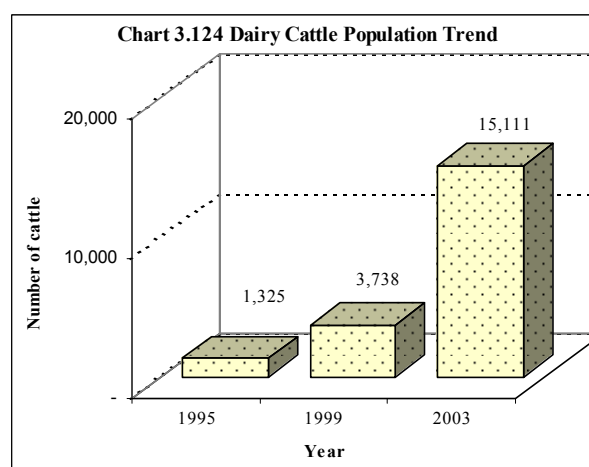
Cattle population in Ruvuma increased during the eight-year period from 75,027 in 1995 to 121,175 cattle in 2003. This implies an overall positive average annual growth rate of 6.2 percent (Chart 3.123).

There was a small increase in number of cattle during the five-year period from 1995 to 1999 at the rate of 1.6 percent whereby the number increased from 75,027 to 79,969. Moreover, the number of cattle is estimated to have increased from 79,969 in 1999 to 121,175 in 2003 at the rate of 10.9 percent.



3.12.1.4 Improved Cattle Breeds

The total number of improved cattle in Ruvuma region was 15,292 (15,111 dairy and 181 improved beef). The dairy cattle constituted 12.5 percent of the total cattle and 99 percent of improved cattle in the region. The number of beef cattle in the region was insignificant constituting only 1 percent of the total number of the improved cattle and 0.2 percent of the total cattle. The number of improved cattle increased from 1,325 in 1995 to 15,111 in 2003 at an average annual growth rate of 35.6 percent. The growth rate was lower from 1995 to 1999 (35.6%) than from 1999 to 2003 (41.8%) (Chart 124).

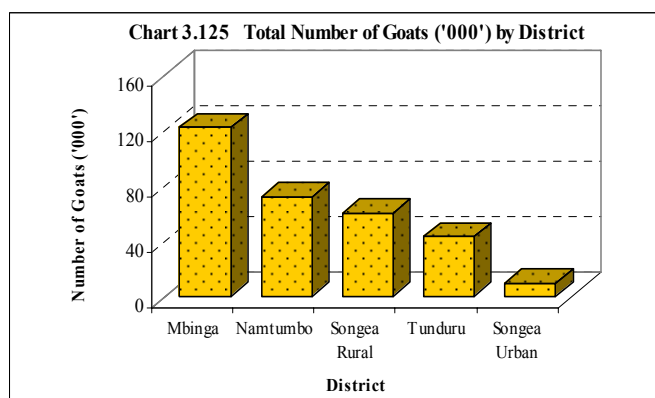


3.12.2. Goat Production

Goat rearing was the second most important livestock keeping activity in the region followed by pig and sheep rearing. In terms of total number of goats on the Mainland, Ruvuma region ranked 15 out of the 21 regions with 2.6 percent of the total goats on the Mainland.

3.12.2.1 Goat Population

The number of goat-rearing-households in Ruvuma region was 68,381 (36% of all agricultural households in the region) with a total of 309,595 goats giving an average of 5 head of goats per goat-rearing-household. Mbinga had the largest number of goats (122,564 goats, 40% of all goats in the region), followed by Namtumbo (72,649 goats, 23%) and Songea Rural (60,790 goats, 20%). Tunduru and Songea Urban districts had the



least number of goats (43,548 goats, 14% and 10,044 goats, 3% respectively) (Chart 3.125 and Map 3.45). However Songea Urban district had the highest density (62 head per km²) (Map 3.46)

3.12.2.2 Goat Herd Size

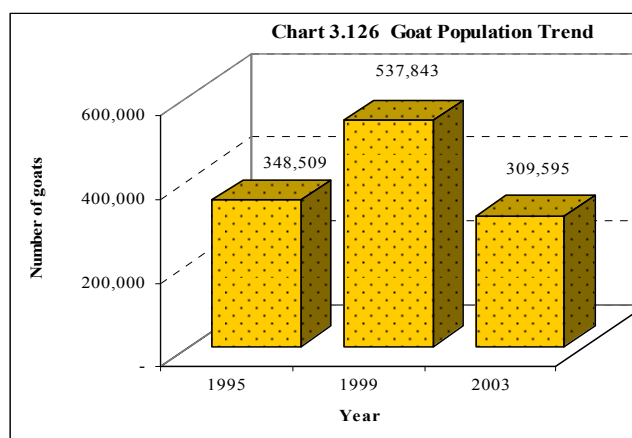
Sixty two percent of the goat-rearing households had herd sizes of 1-4 goats with an average of 2 goats per goat rearing household. Ninety seven percent of total goat-rearing households had herd sizes of 1-14 goats and owned 97 percent of the total goats in the region resulting in an average of 4 goats per goat-rearing households.

3.12.2.3 Goat Breeds

Goat husbandry in the region was dominated by the indigenous breeds that constituted 98 percent of the total goats in Ruvuma region. Both improved goats for meat and diary goats constituted 1 percent each of total goats in the region.

3.12.2.4 Goat Population Trend

The overall average annual growth rate of goat population from 1995 to 2003 was -1.5 percent. This negative trend implies eight years of population decrease from 348,509 in 1995 to 309,595 in 2003. The number of goats increased from 348,509 in 1995 at an estimated annual rate of 11.5 percent to 537,843 in 1999. From 1999 to 2003, the goat population decreased at an annual rate of -12.9percent (Chart 126).

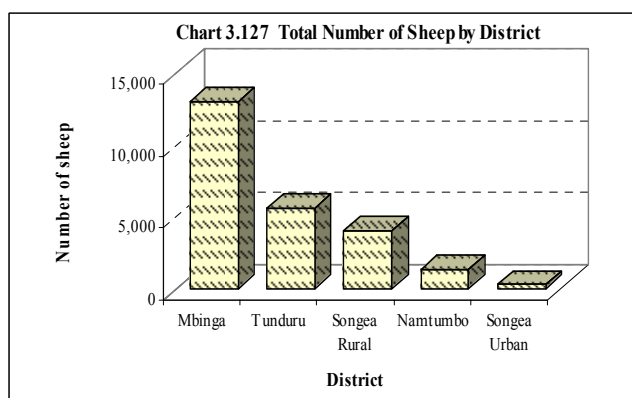


3.12.3. Sheep Production

Sheep rearing was the fourth important livestock keeping activity in Ruvuma region after cattle goats and pigs. The region ranked 18 out of 21 Mainland regions and had 1 percent of all sheep on Tanzania Mainland.

3.12.3.1 Sheep Population

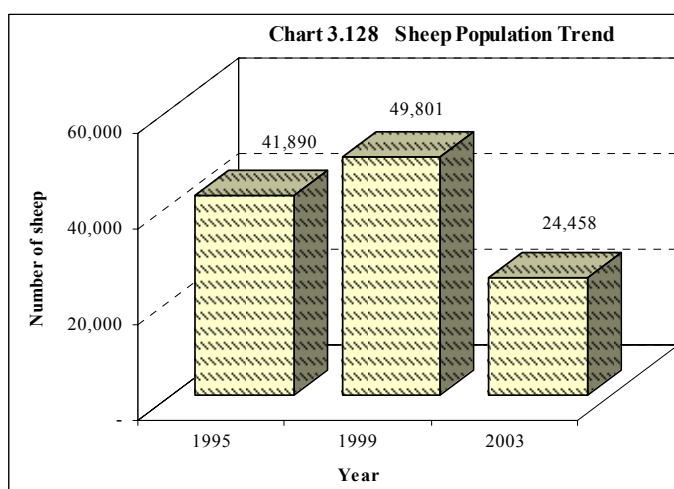
The number of sheep-rearing households was 7,390 (4% of all agricultural households in Ruvuma region) rearing 24,458 sheep, giving an average of 3 heads of sheep per sheep-rearing household. The district with the largest number of sheep was Mbinga with 13,073 sheep (53%of total sheep in Ruvuma region) followed by Tunduru (5,671 sheep, 23%), Songea Rural (4,070 sheep, 17%) and Namtumbo (1,371, 6%). Songea Urban District had the least number of sheep (275 sheep, 1%) (Chart 3.127and Map 3.47). Mbinga district also had the highest density (3 head per km²) (Map 3.48).



Sheep rearing was dominated by indigenous breeds that constituted 96 percent of all sheep kept in the region. Only 4 percent of the total sheep in the region were improved breeds.

3.12.3.2 Sheep Population Trend

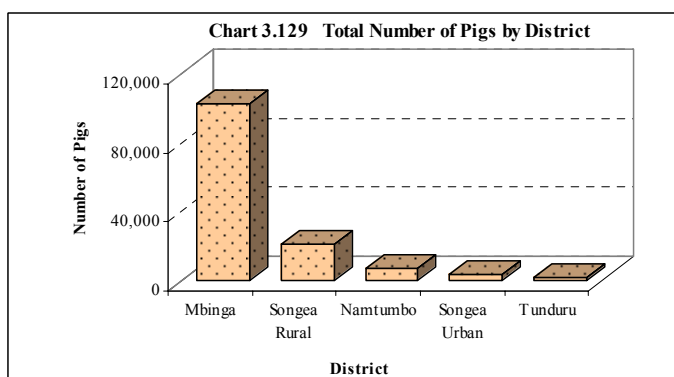
The overall annual growth rate of the sheep population for the eight-year period from 1995 to 2003 was estimated at -6.5 percent. The population increased at an annual rate of 4.4 percent from 41,890 in 1995 to 49,801 in 1999. From 1999 to 2003, sheep population decreased at an annual rate of -16.3 percent (Chart 3.128).



3.12.4. Pig Production

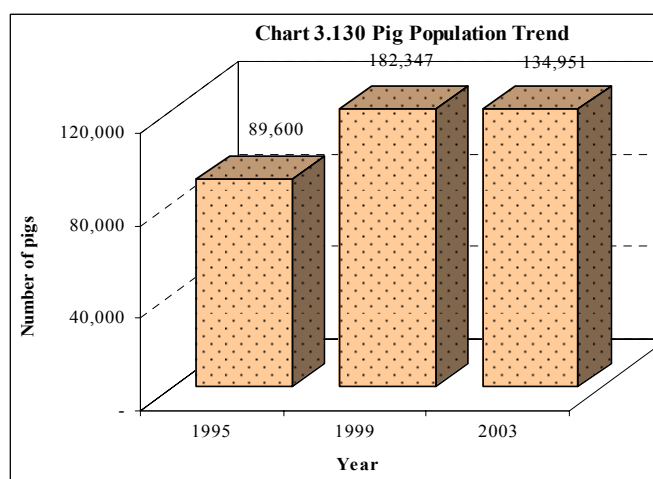
Piggery was the third most important livestock keeping activity in the region after cattle and goats. The region ranks 5 out of 21 Mainland regions and had 14.0 percent of the total pigs on Tanzania.

The number of pig-rearing agricultural households in Ruvuma region was 54,852 (29% of the total agricultural households in the region) rearing 134,951 pigs. This gives an average of 2 pigs per pig-rearing household. The district with the largest number of pigs was Mbinga with 102,373 pigs (76% of the total pig population in the region) followed by Songea Rural (20,763 pigs, 15%), Namtumbo (6,909 pigs, 5%), Songea Urban (3,308 pigs, 2%) and Tunduru (1,598 pigs, 1%) (Chart 3.129 and Map 3.49). Mbinga district had the highest density (23 head per km²) (Map 3.50).



3.12.4.1 Pig Population Trend

The overall annual growth rate of the pig population for the eight years period from 1995 to 2003 was 5.3 percent. During this period the population grew from 89,600 to 134,951. The pig population increased from 89,600 in 1995 to 182,347 in 1999 at the rate of 19.4 percent. The growth rate dropped to -7.2 percent during the following four years from 1999 to 2003 in which pig population decreased from 182,347 to 134,951 (Chart 3.130).



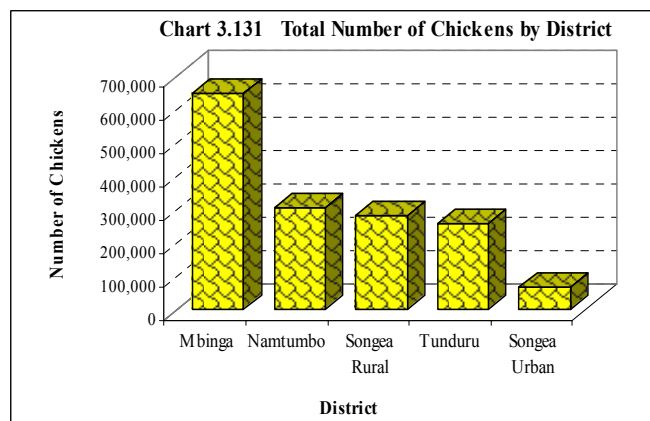
3.12.5 Chicken Production

The poultry sector in Ruvuma region was dominated by chicken production. The region contributed 4.7 percent to the total chicken population on Tanzania Mainland.

3.12.5.1 Chicken Population

The number of households keeping chicken was 139,284 raising about 1,555,617 chickens. This gives an average of 11 chickens per chicken-rearing household. In terms of total number of chickens in the country, Ruvuma region was ranked eighth out of the 11 Mainland regions.

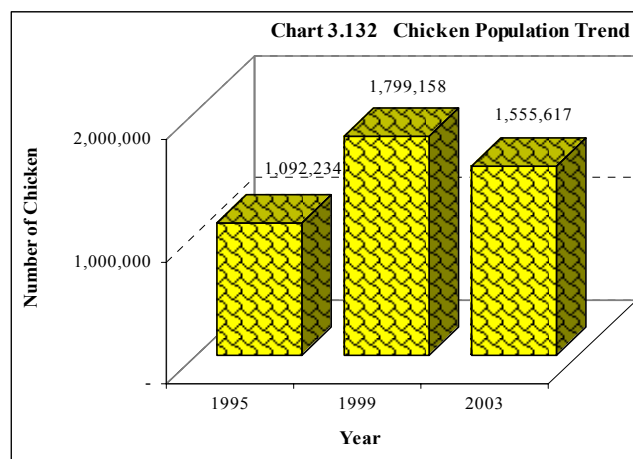
The District with largest number of chickens was Mbinga (647,834 chickens, 42% of the total number of chickens in the region) followed by Namtumbo (304,763, 20%), Songea Rural (279,909, 18%) and Tunduru (257,329, 17%). Songea Urban district had the smallest number of chickens (65,782, 4%) (Chart 3.133 and Map 3.51). However Songea Urban district had the highest density (422 head per km²) (Map 3.52).



3.12.5.2 Chicken Population Trend

The overall annual population growth rate for chicken during the eight-year period from 1995 to 2003 was 4.5 percent. The population increased at a rate of 13.3 percent from 1995 to 1999 after which it decreased at -3.6 percent for the four-year period from 1999 to 2003 (Chart 3.132).

Ninety nine percent of all chicken in Ruvuma region were of indigenous breed. The dominance of indigenous breed makes the population trend for the indigenous chicken more-or-less the same as that of the total chickens in the region.

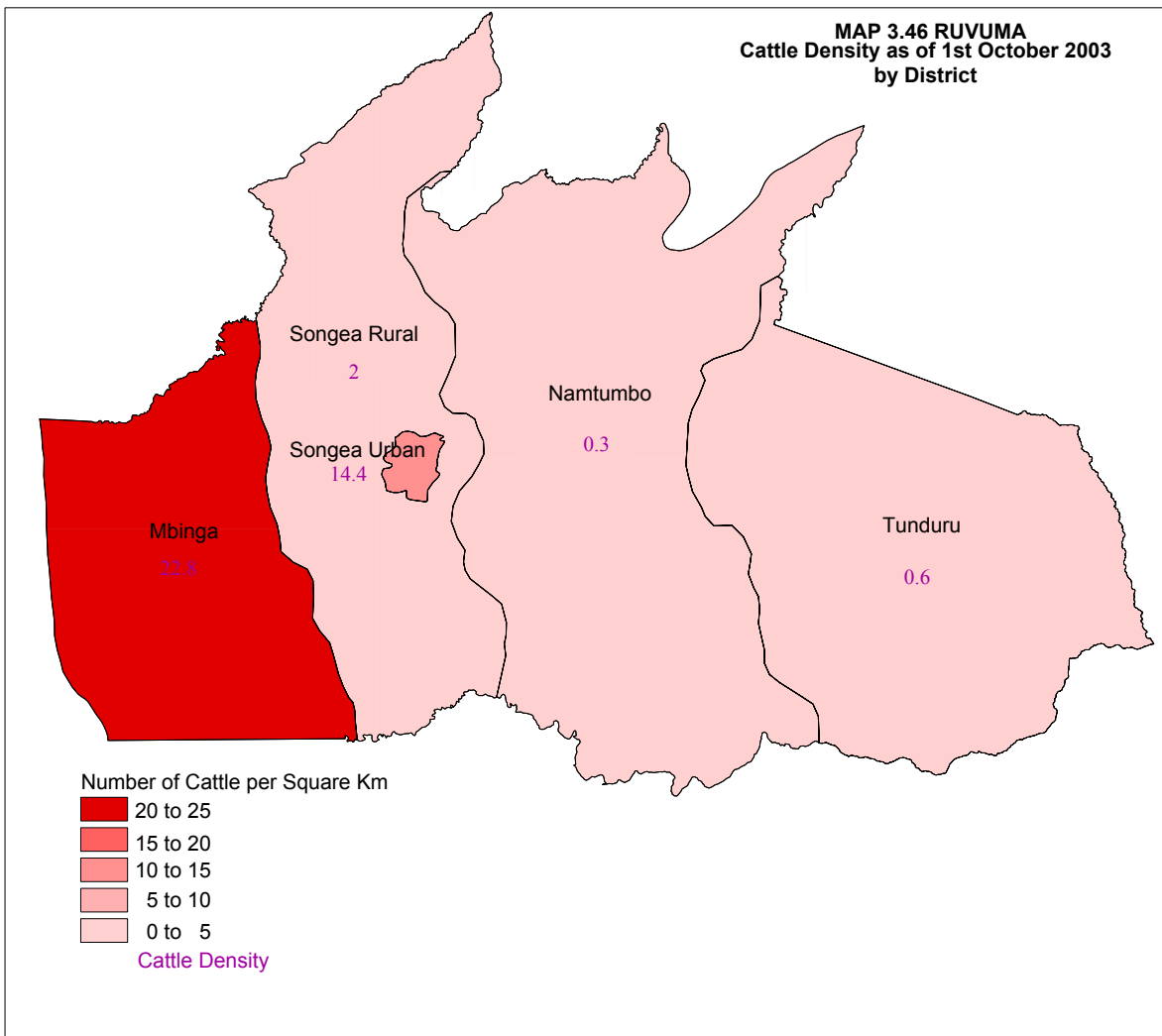
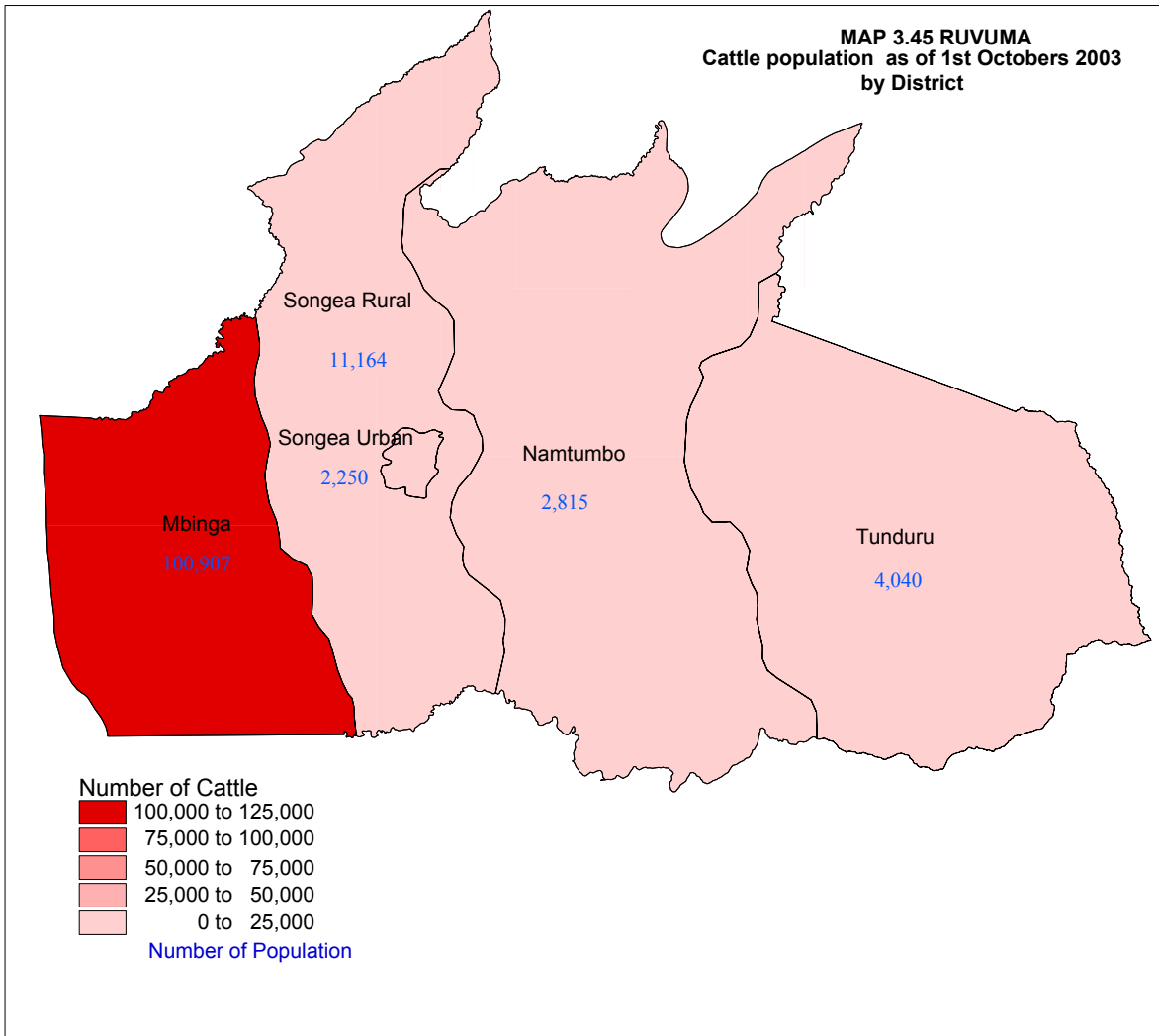


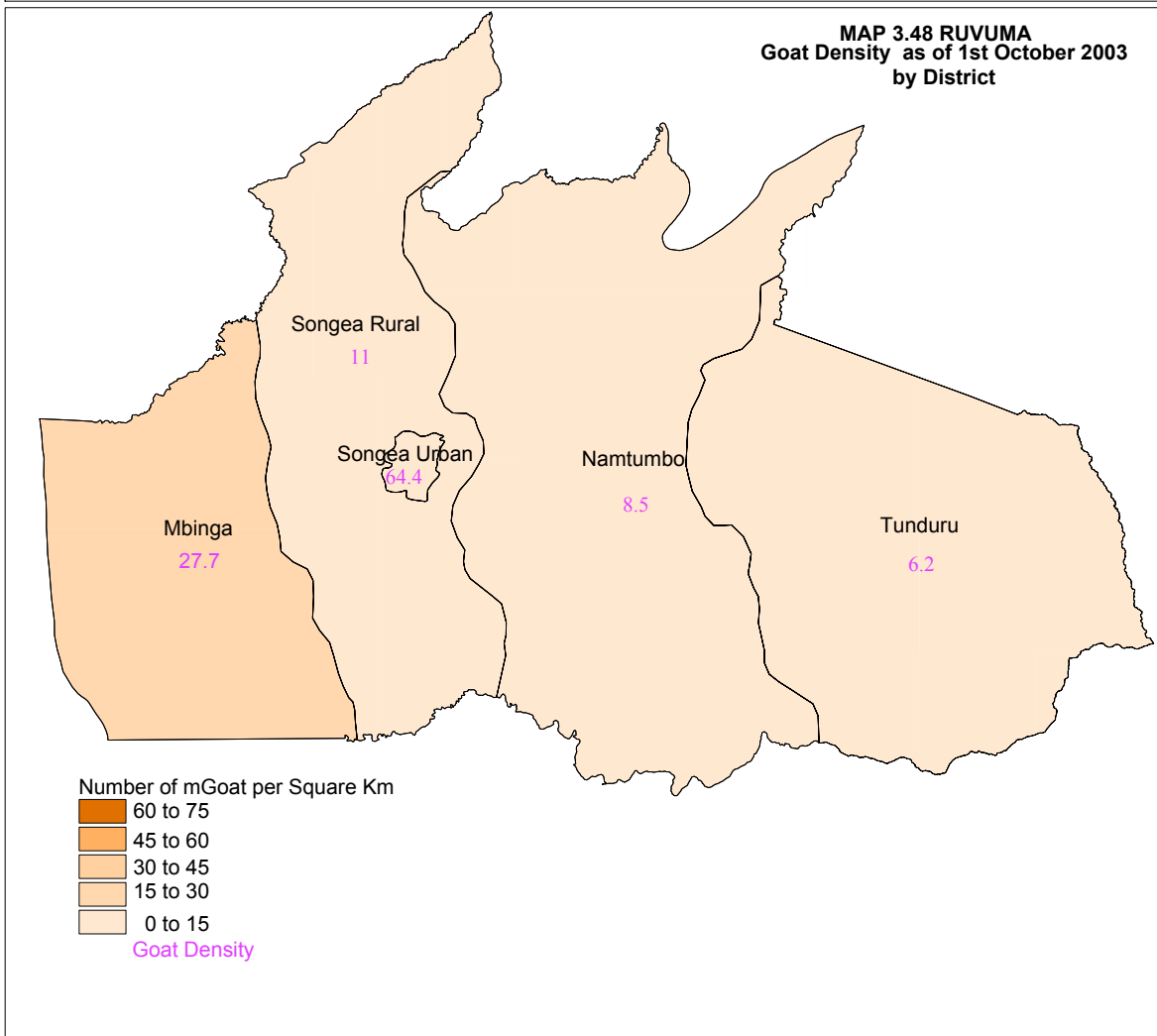
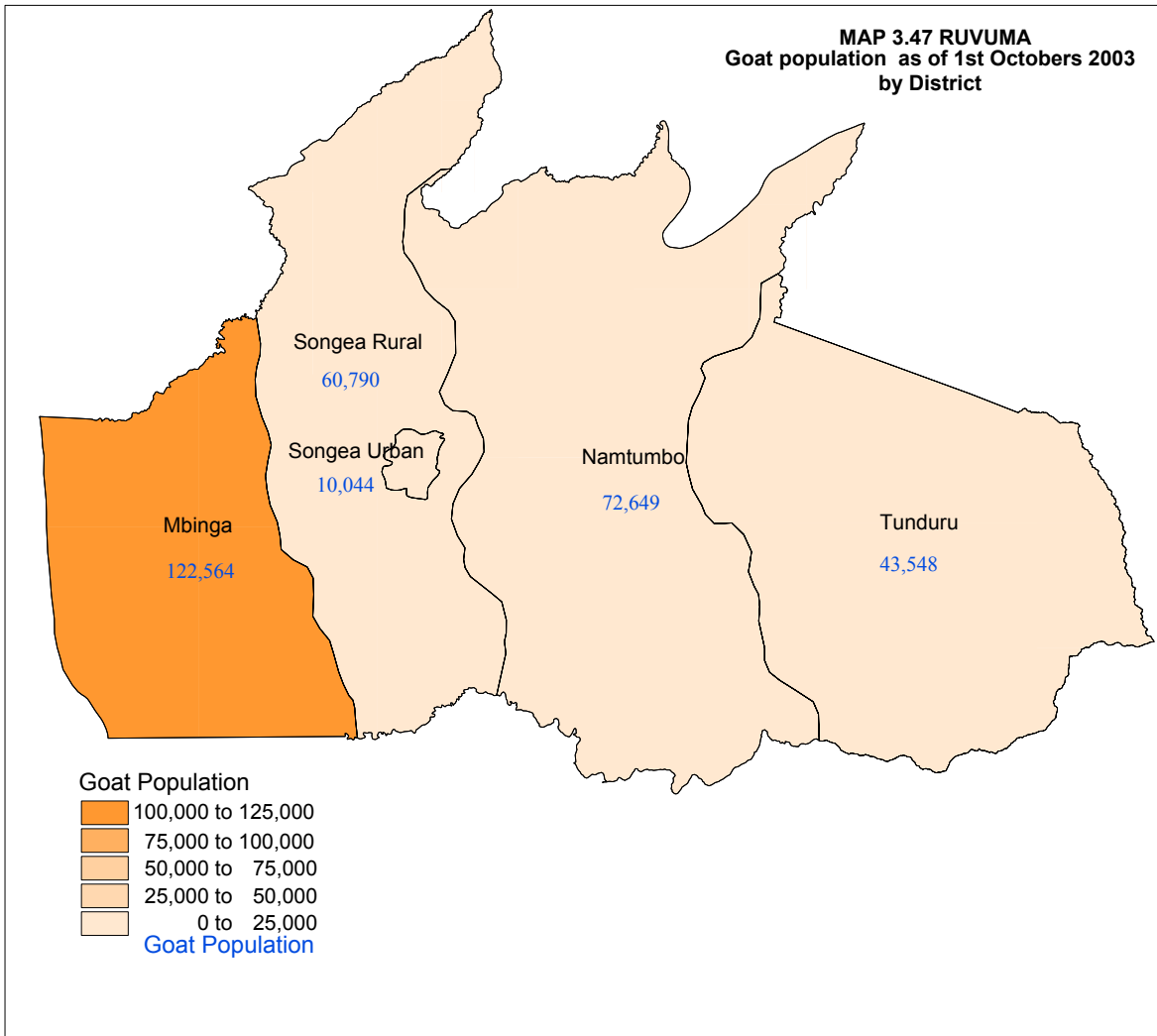
3.12.5.3 Chicken Flock Size

The results indicate that about 85 percent of all chicken-rearing households were keeping 1-19 chickens with an average of 7 chickens per holder. About 15 percent of holders were reported to be keeping the flock size of 20 to 99 chickens with an average of 41 chickens per holder (Table 3.15).

Table 3.15 Number of Households and Chickens Raised by Flock Size

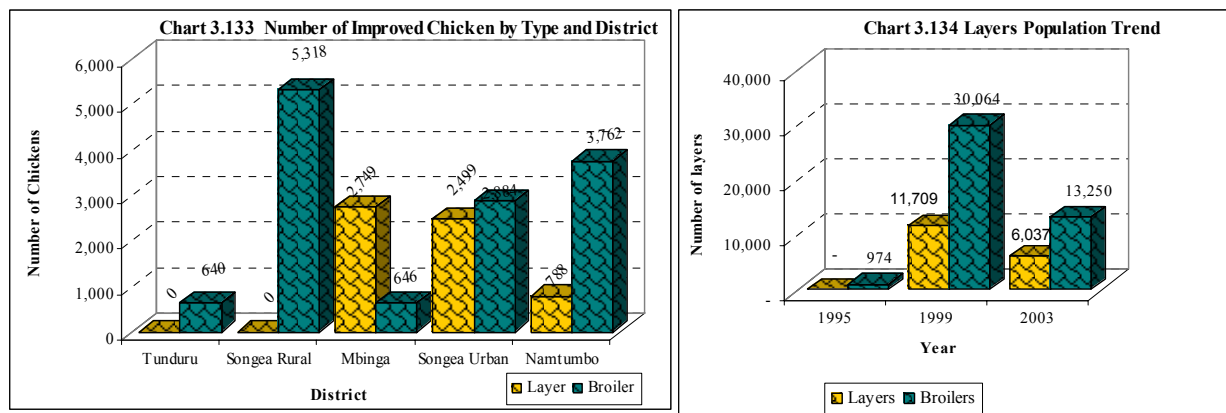
Flock Size	Number of Households	%	Number of Chicken	Average Chicken by Households
1 - 4	36,278	26	96,787	3
5 - 9	40,716	29	268,983	7
10 - 19	41,041	29	546,003	13
20 - 29	12,834	9	287,289	22
30 - 39	4,822	3	156,927	33
40 - 49	1,490	1	66,756	45
50 - 99	2,103	2	132,872	63
Total	139,284	100	1,555,617	11





3.12.5.4 Improved Chickens (layers and broilers)

Layers chicken population in Ruvuma region increased at an annual rate of 15.3 percent for the four-year period from 11,709 in 1999 to 6,037 in 2003. The number of improved chicken was most significant in Songea Urban district followed by Songea Rural district (Chart 3.133).



The overall average annual growth rate for broilers during the eight-year period from 1995 to 2003 was 38.6 percent during which the population grew from 974 to 13,250. The annual growth rate was higher (135.7%) for the first four-year (1995 to 1999). The broiler population exhibited a decreasing trend at the rate of -18.5 percent per annum for the period of four years resulting at increase from 30,064 in 1999 to 13,250 in 2003 (Chart 3.134).

3.12.6. Other Livestock

There were 42,163 rabbits, 868 turkeys, 38,878 ducks and 4,600 donkeys raised by rural agricultural households in Ruvuma region. Table 3-32 indicates the number of livestock kept in each district. The biggest number of rabbits in the region was found in Mbinga district (74% of all rabbits in the region), followed by Namtumbo (11%), Songea Rural (7%) and Songea Urban (6%).

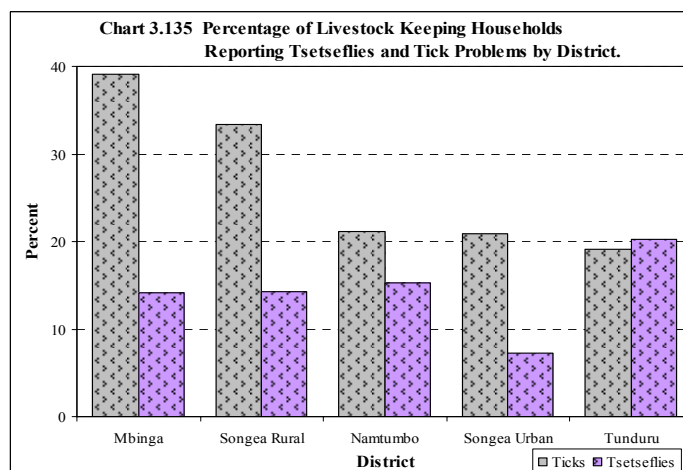
Table 3.16 Number of Other Livestock by Type of Livestock and District

District	Types of Livestock				
	Rabbits	Turkeys	Ducks	Donkeys	Other
Tunduru	984	0	15,865	984	14,460
Songea Rural	2,963	689	3,422	0	0
Mbinga	31,130	124	10,426	3,616	1,580
Songea Urban	2,472	55	2,970	0	408
Namtumbo	4,614	0	6,195	0	576
Total	42,163	868	38,878	4,600	17,025

Tunduru district had the least number of rabbits estimated at 2 percent of total rabbits in the region. Ducks were reported mainly in Tunduru and Mbinga districts (Table 3.16).

3.12.7 Pest and Parasite Incidence and Control

The results indicate that 32 percent and 15 percent of the total livestock-keeping households reported to have encountered ticks and tsetse fly problems respectively. Chart 3.135 shows that there was a predominance of tick related diseases over tsetse related diseases. While tick incidences were highest in Mbinga and lowest in Tunduru, tsetse incidences were highest in Tunduru and lowest in Songea Urban. (Chart 3.135 and Map 3.53).

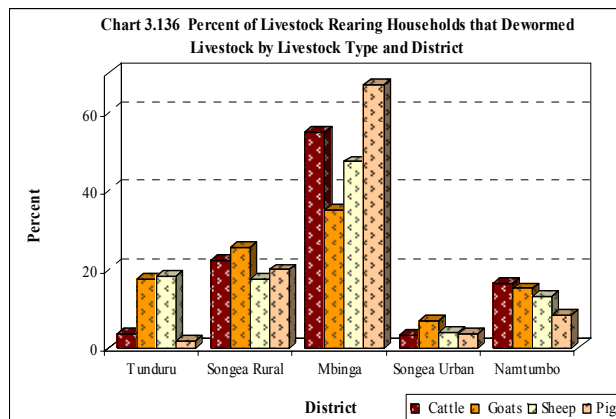


The most practiced method of tick controlling was spraying with 43 percent of all livestock-rearing households in the region using the method. Other methods used were dipping (7%), smearing (2%) and other traditional methods like hand picking (19%). However, 29 percent of livestock-keeping households did not use any method.

The most common method used to control tsetse flies was spraying which was practiced by 31 percent of livestock-rearing households. This was followed by dipping (2%) and trapping (1%). However, 66 percent of the livestock rearing households did not use any of the three aforementioned methods.

3.12.7.1 Deworming

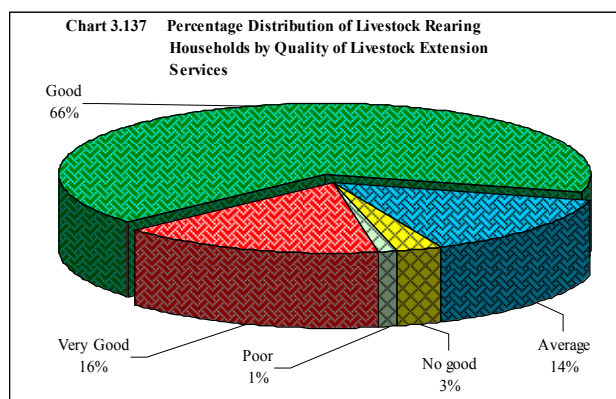
Livestock rearing households that dewormed their animals were 21,145 (43% of the total livestock rearing households in the region). The percentage of the households that dewormed cattle was 65 percent, goats (7%), sheep (29%) and pigs (23%) (Chart 3.136).



3.12.8. Access to Livestock Services

3.12.8.1 Access to Livestock Extension Services

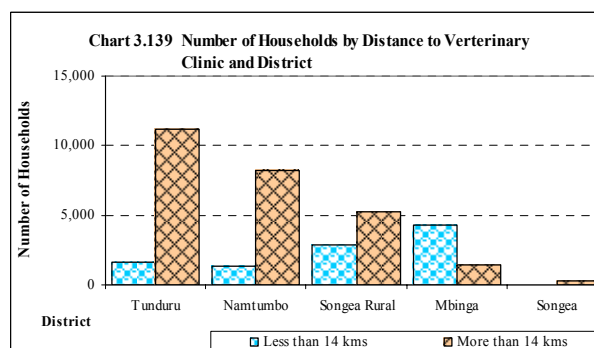
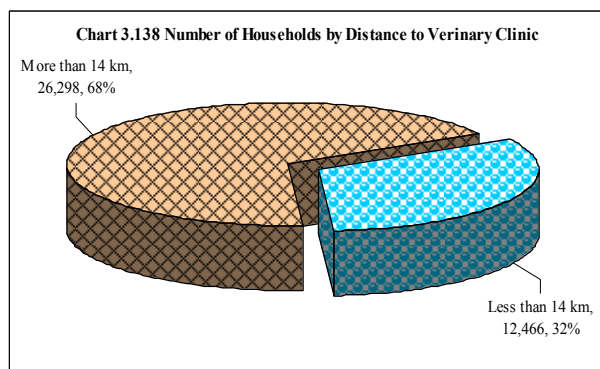
The total number of households that received livestock advice was 30,585 representing 62 percent of the total livestock-rearing households and 16.0 percent of the agricultural households in the region. The main livestock extension agent was the government which provided service to about 79.4 percent of all households receiving livestock extension services. The rest of the households got services from NGOs/development projects (9.5%), large-scale farmers (5.1%) and cooperatives (3.7%).



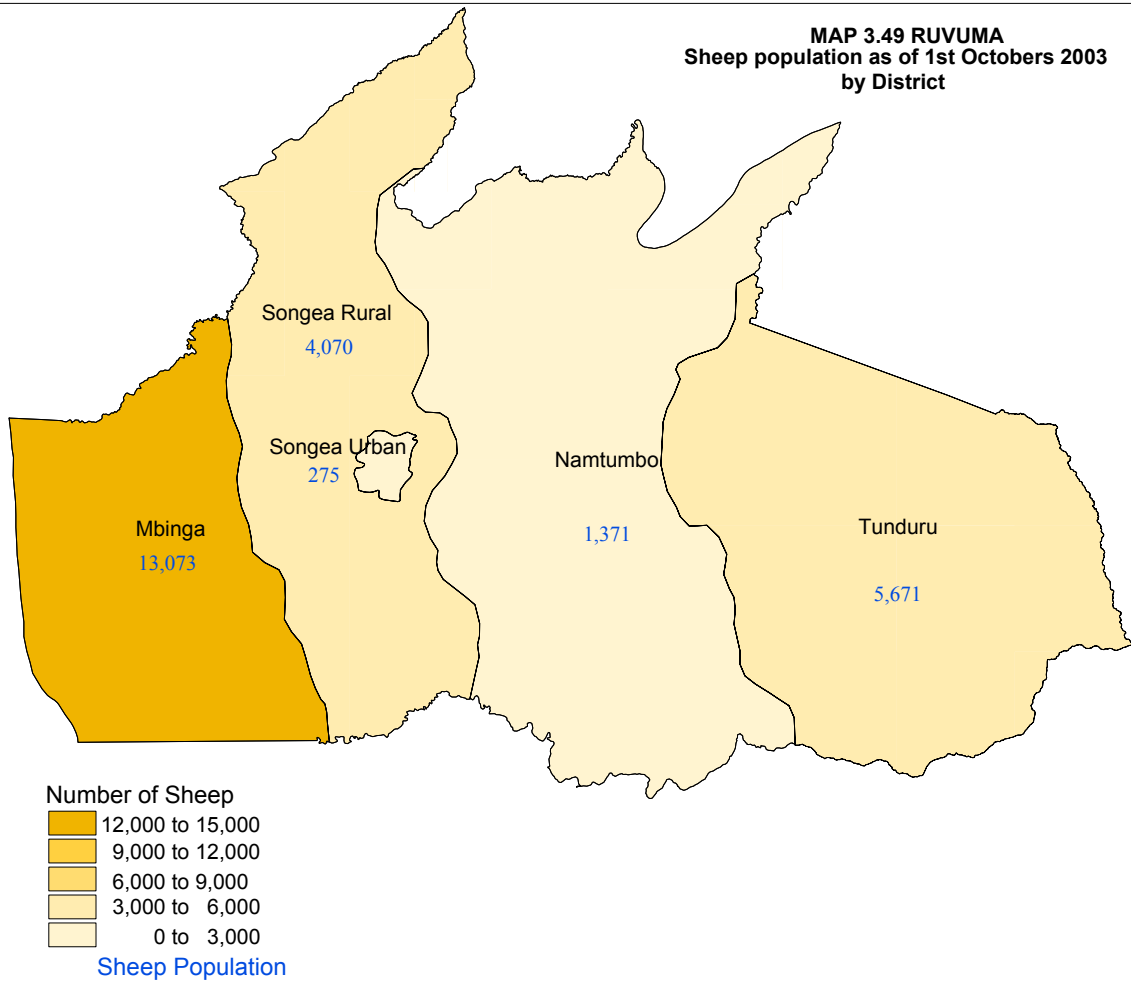
About 66 percent of livestock rearing households described the general quality of livestock extension services as being good, 16 percent said they were very good and 14 percent said they were average. However, 3 percent of the livestock rearing households said the quality was not good whilst 1 percent described them as poor (Chart 3.137).

3.12.8.2 Access to Veterinary Clinic

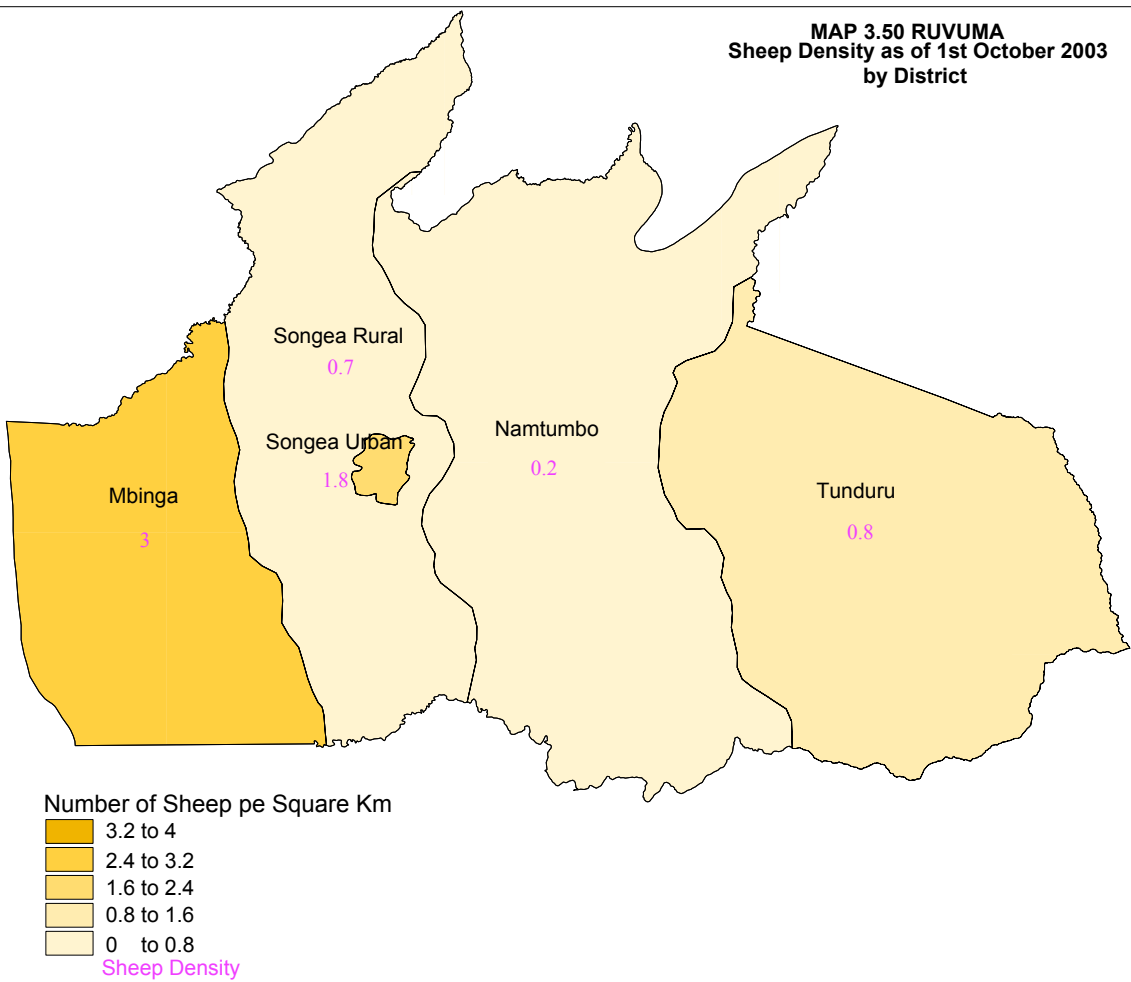
Many veterinary clinics were located very far from livestock rearing households. About 68 percent of the livestock rearing households accessed the services, at a distance of more than 14 kms. Only 32 percent of them accessed the services within



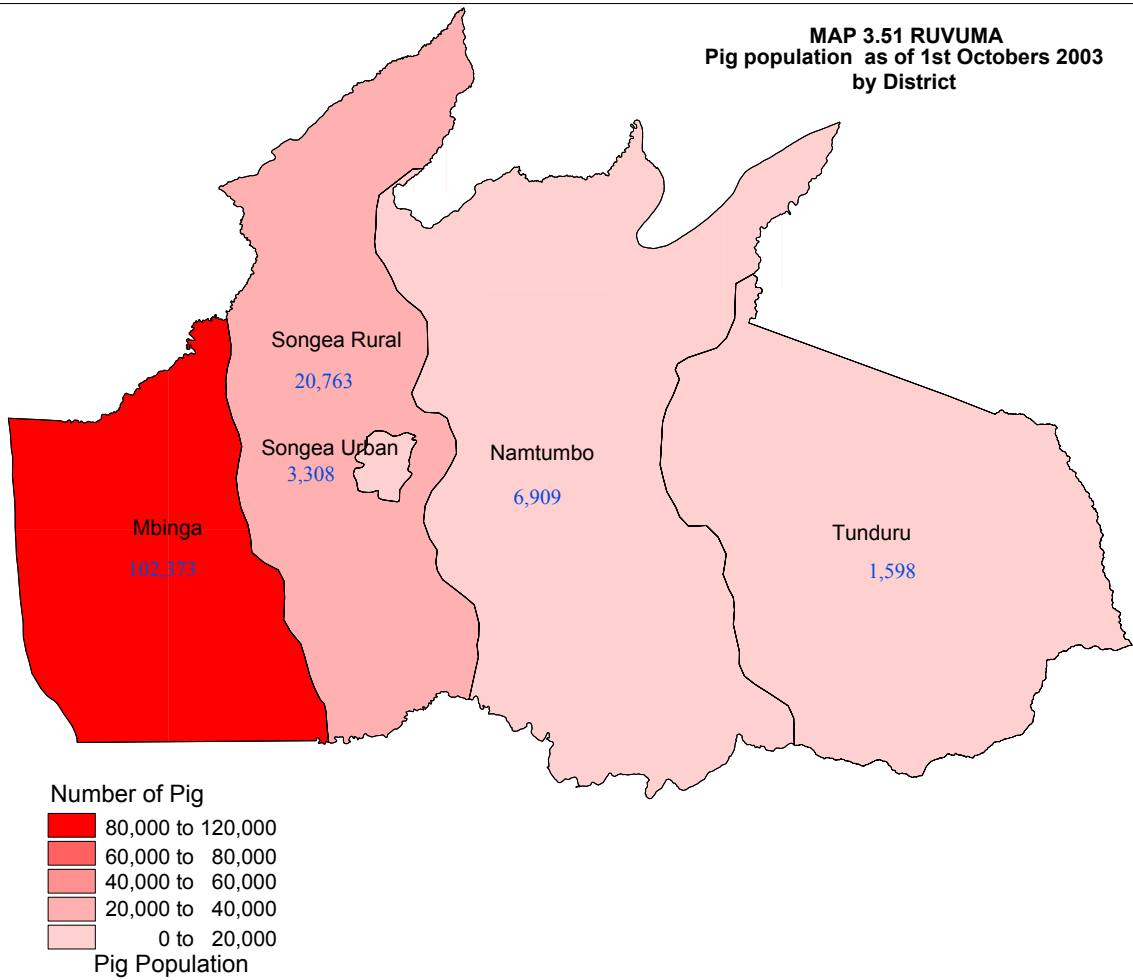
MAP 3.49 RUVUMA
Sheep population as of 1st Octobers 2003
by District



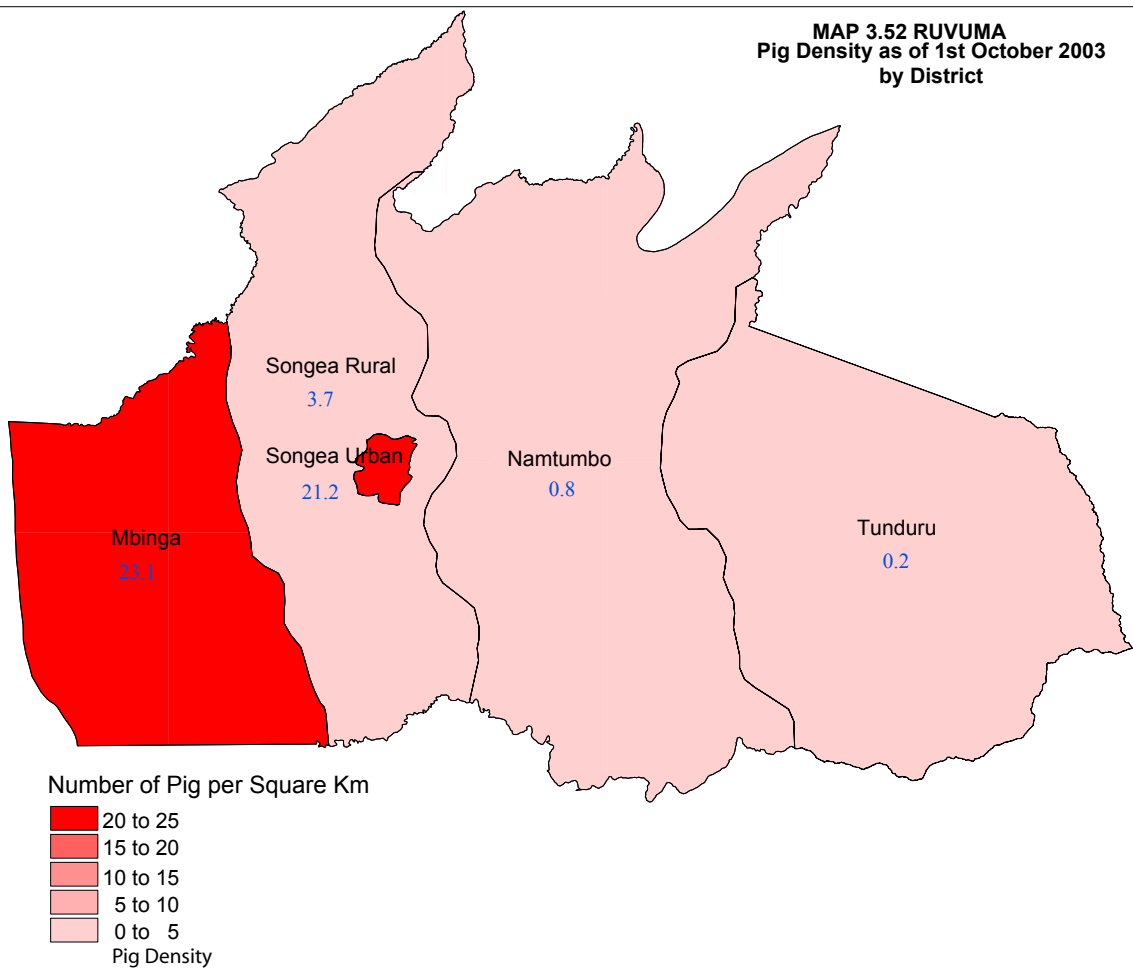
MAP 3.50 RUVUMA
Sheep Density as of 1st October 2003
by District



MAP 3.51 RUVUMA
Pig population as of 1st Octobers 2003
by District



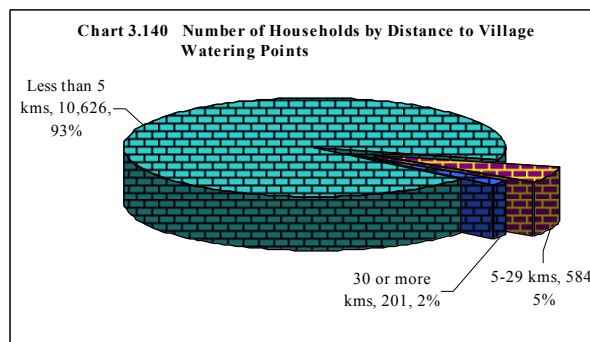
MAP 3.52 RUVUMA
Pig Density as of 1st October 2003
by District



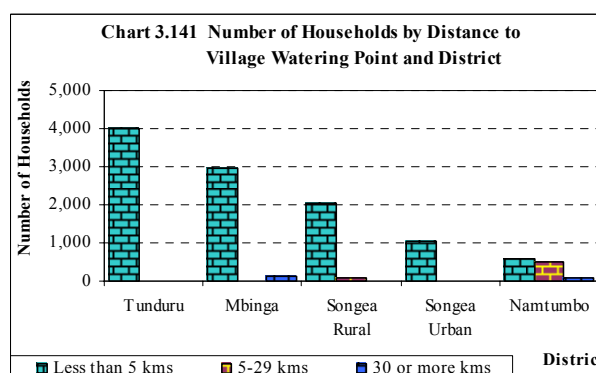
14 kms from their dwellings (Chart 3.138). The most affected district was Songea Urban district with almost all livestock rearing households accessing the services at a distance of more than 14 kms. Mbinga District was the least affected because about 53 percent of the households could access the service within a distance of 14 kilometres. (Chart 3.139).

3.12.8.3 Access to Village Watering Points/dam

The number of livestock rearing households residing less than 5 kms from the nearest watering point was 10,626 (93% of livestock rearing households in Ruvuma region) whilst 584 households (5%) resided between 5 and 29 kms. However, 201 households (2%) had to travel a distance of 30 or more kms to f the nearest watering point (Chart 3.140).



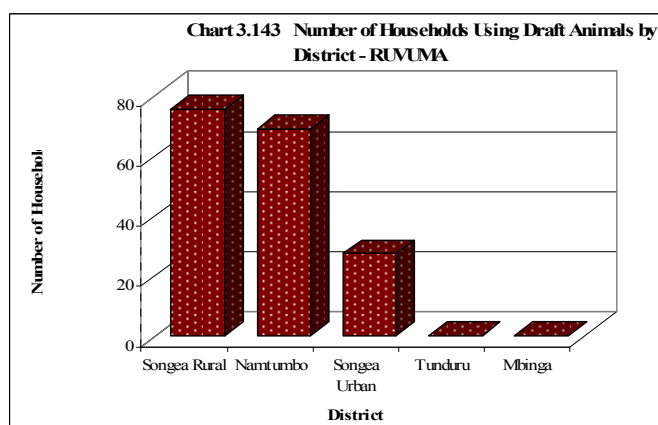
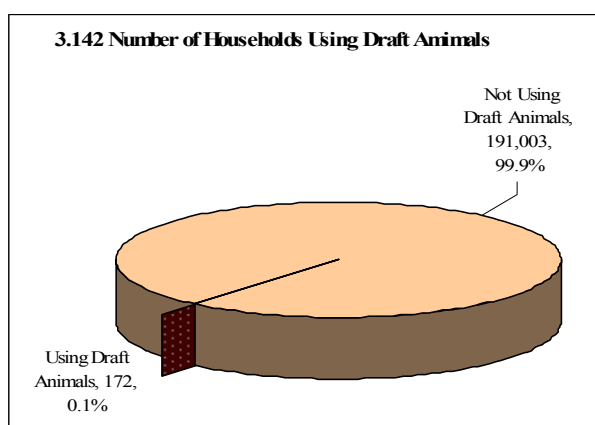
Tunduru district had the best livestock water supply with the majority of livestock rearing households residing within 5 kms from the nearest watering point. This was followed by Mbinga, Songea Rural and Songea Urban districts. In Namtumbo district about 43 percent of the livestock rearing households had to travel a distance of more than five kilometers to the nearest watering point (Chart 3.141).



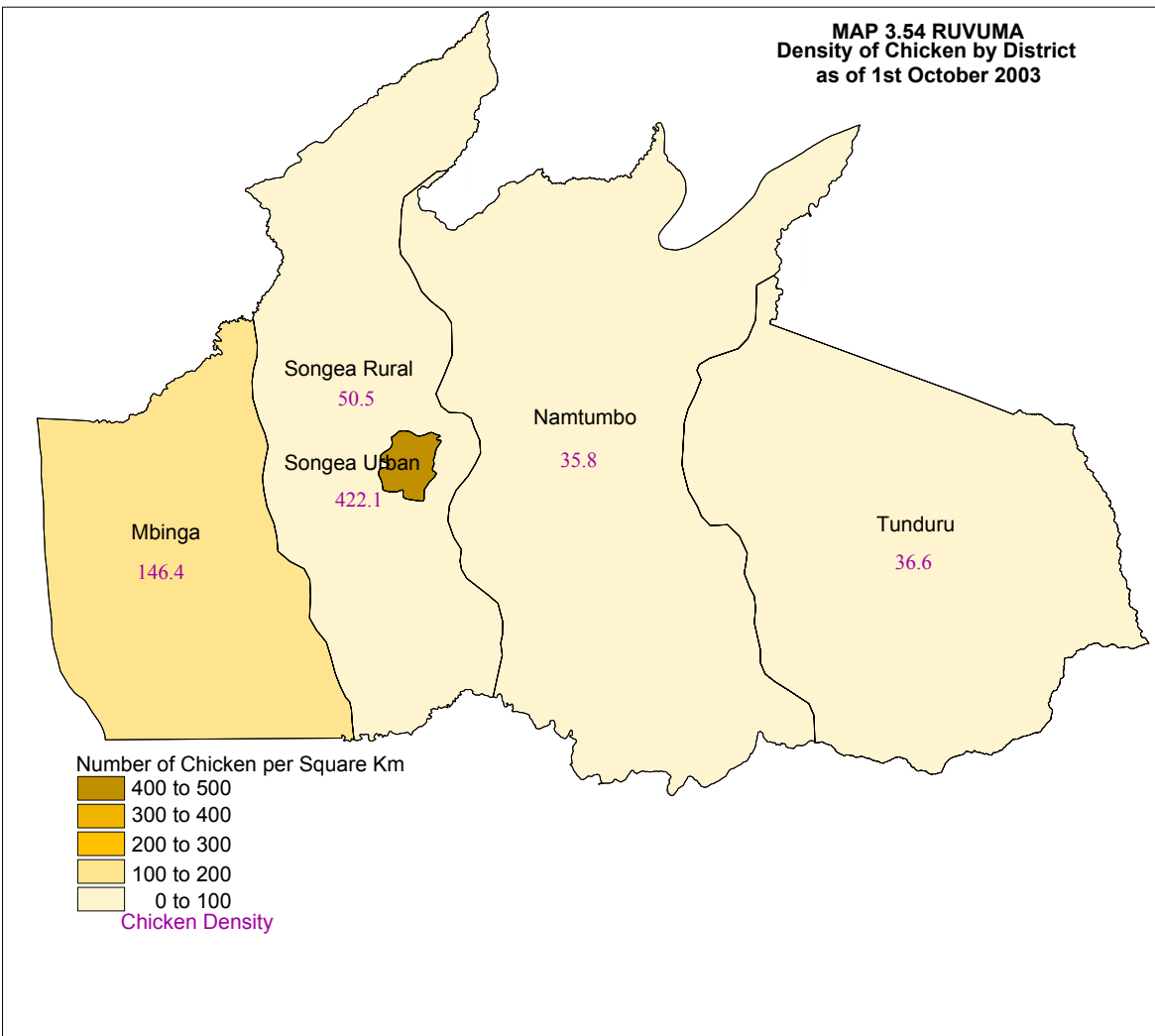
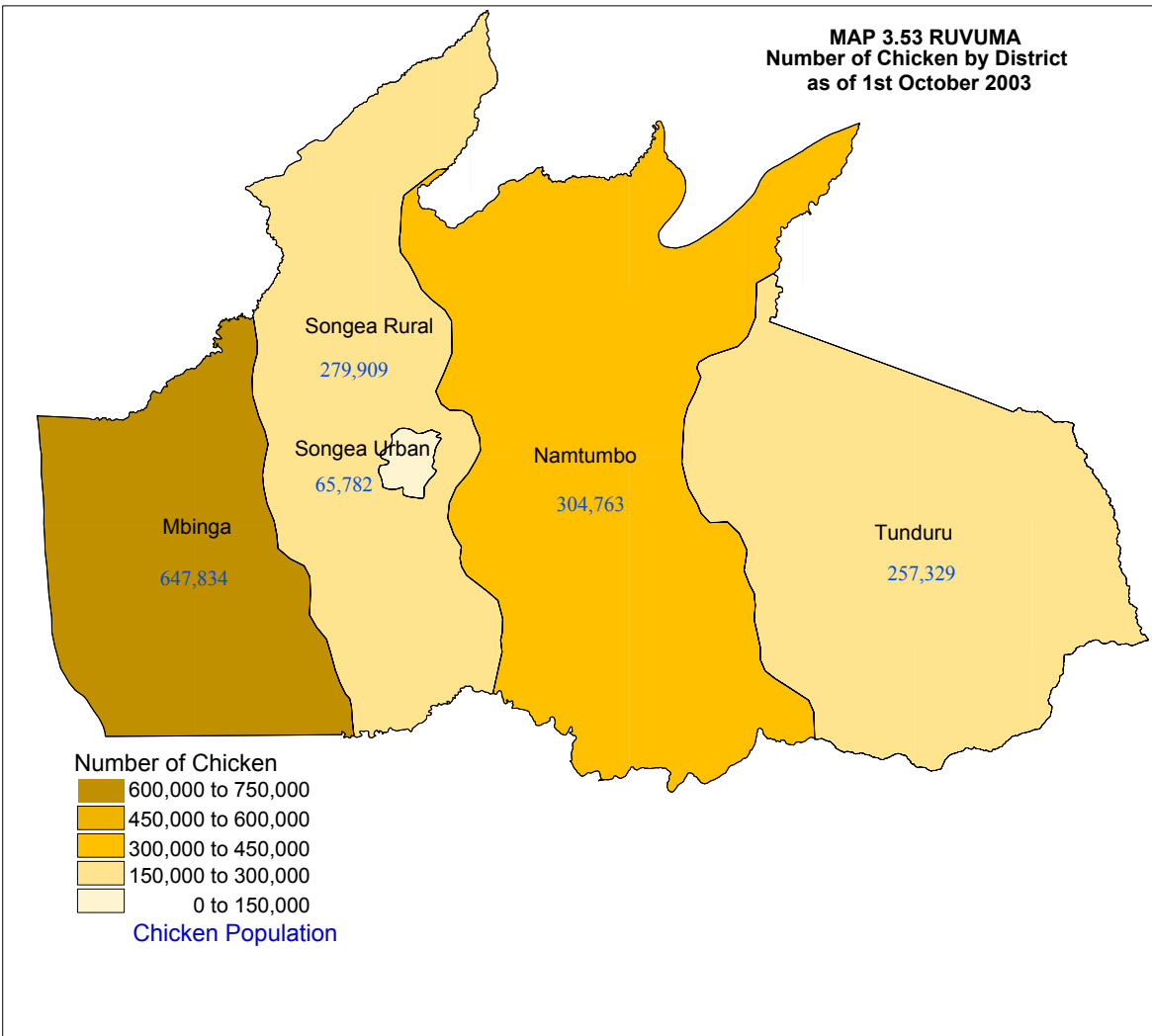
3.12.9. Animal Contribution to Crop Production

3.12.9.1 Use of Draft Power

Use of draft animals to cultivate land in Ruvuma region was very limited with only 172 households (0.09% of the total households in the region) using them (Chart 3.142).



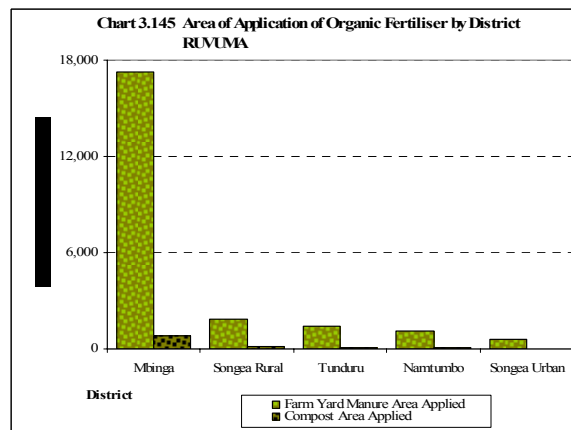
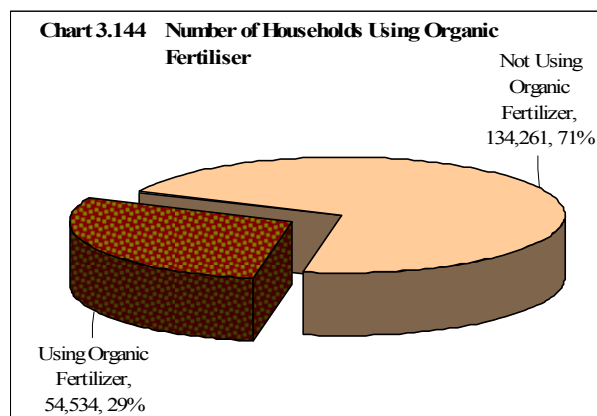
The large number of households that used draft animals were in Songea Rural (76 households, 44%), followed by Namtumbo (69 households,40%) and Songea Urban (27 households, 16%). whilst in Kilindi only 49 households (11%) used draft animals. Use of draft animals was not reported in the other districts (Chart 3.143 and Map 3.54).



The region had 55 oxen. Only Songea Urban had 55 oxen which were used to cultivate 33 hectares of land. This represented only 0.001 percent of the total oxen found on the Mainland.

3.12.9.2 Use of Farm Yard Manure

The number of Households using organic fertilizer in Ruvuma region was 54,534 (29% of total crop growing households in the region) (Chart 3.144). The total area applied with with farm yard manure was 22,227 hectares (95% of the total area applied with organic fertiliser and 6.2% of the area planted with annual crops and vegetables in Ruvuma region in the wet



season). The largest area applied with farm yard manure was found in Mbanga district with 17,255 hectares (78% of the total area applied with farm yard manure) followed by Songea Rural (1,842 ha, 8%), Tunduru (1,439 ha, 6%), Namtumbo (1,108 ha, 5%) and Songea Urban (585 ha, 3%) (Chart 3.145 and Map 3.55).

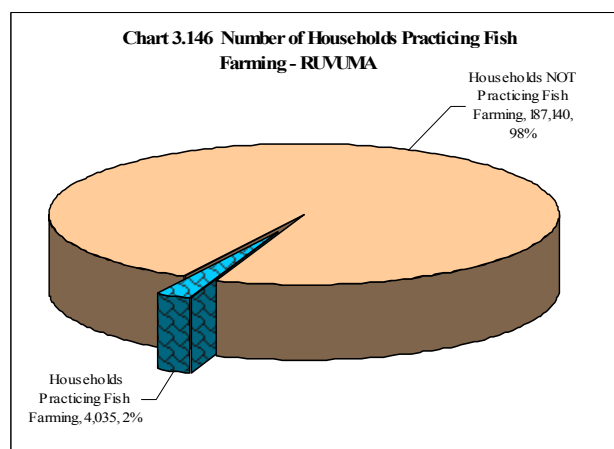
3.12.9.4 Use of Compost

Only 3,591 ha (5% of the area of organic fertilizer application) was applied with compost. Mbanga had the largest planted area with compost application (1,561 ha, 43.5% of the total area applied with compost in the region), followed by Songea Rural (829 ha, 23.1%), Tunduru (649 ha, 18.1%), Namtumbo (394 ha, 11.0%) and Songea Urban (394 ha, 4.4%) (Map 3.56)

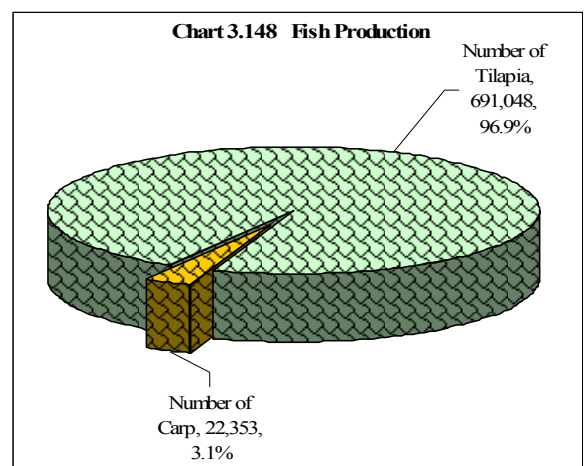
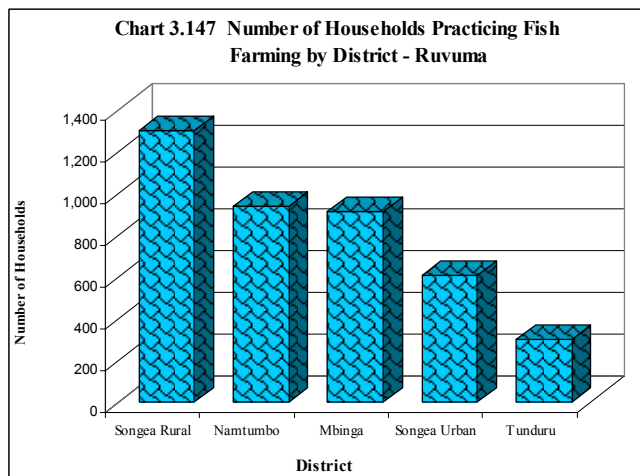
3.12.10 Fish Farming

The number of households involved in fish farming in Ruvuma region was 4,035, representing 2 percent of the total agricultural households in the region (Chart 3.146).

Songea Rural was the leading district with 1,294 households (32.1% of agricultural households involved in fish farming in the region). This was followed by Namtumbo (933 households, 23.1%), Mbanga (910 households, 22.5%), Songea Urban (610 households, 14.9%) and Tunduru (298 households, 7.4%). (Chart 3.147 and Map 3.57).



The main source of fingerings was the neighbours which provided fingerings to 76 percent of the fish farming households. About 12 percent of households practicing fish farming got fingerings from government institutions and 9 percent got them from non governmental organizations and/or projects.



The fish farming households in the region used various fish farming systems (natural pond, dug out pond, water reservoir and others not identified) and the main fish species planted was Tilapia. The number of fish harvested in Ruvuma region was 758,065 of which 691,048 fish (91.2%) were tilapia, 22,353 (2.9%) were carp and 44,663 (5.9%) were not identified (Chart 3.148). About 36 percent of the fish farming households sold their fish to neighbours, those who sold to traders were 4%, and selling to others were 2% while 57 percent did not sell.

3.13. POVERTY INDICATORS

The agricultural census collected data on poverty for the purpose of providing a base for tracking progress in poverty reduction strategies undertaken by the government.

3.13.1 Access to Infrastructure and Other Services

Table 3.17 Mean Distances from Household Dwellings to Infrastructures and Services by District

District	Mean Distance to											
	Secondary Schools	Primary Schools	All weather Roads	Feeder Roads	Hospitals	Health Clinics	Regional Capital	Primary Markets	Secondary Markets	Tertiary Markets	Tarmac Roads	
Tunduru	18.7	1.5	10.9	3.0	32.0	7.6	288.3	4.5	22.7	43.9	274.1	
Songea Rural	18.0	1.5	3.2	0.5	46.6	8.5	54.2	14.6	44.6	40.8	23.6	
Mbinga	14.9	2.7	8.6	2.5	27.0	6.1	125.0	8.8	34.8	43.3	106.4	
Songea Urban	5.0	4.3	1.3	0.9	10.8	8.3	7.6	5.1	9.1	7.8	4.4	
Namtumbo	15.4	1.3	19.8	3.6	70.5	6.6	79.7	7.6	56.6	62.3	73.4	
Total	16.0	2.1	9.7	2.4	37.4	7.0	142.5	8.4	35.8	44.6	125.5	

The results indicate that among the evaluated services, regional capital was a service located farthest from most of the household's dwellings. It was located at an average distance of 143 kilometers from the agricultural household's dwellings. Other services and their respective average distances in kilometers from the dwellings were tarmac road (126), tertiary market (45), hospital (37), secondary market (36), secondary school (16), all weather road (10), primary market (8), health clinic (7), feeder road (2) and primary school (2) (Table 3.17).

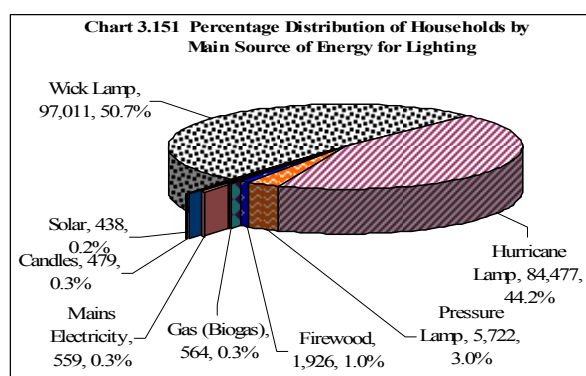
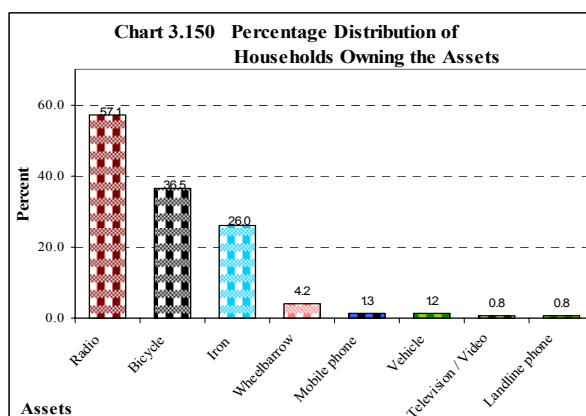
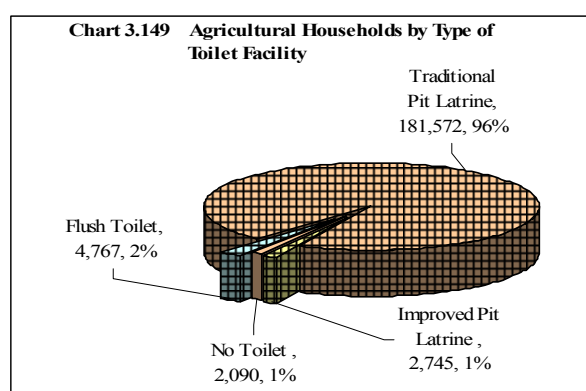
3.13.2 Type of Toilets

A large number of rural agricultural households use traditional pit latrines (181,572 households, 96% of all rural agricultural households) 4767 households (2%) use flush toilets and 2,745 households (1%) use improved pit latrine. However, 2,090 households (1%) had no toilet facilities (Chart 3.119).

The distribution of the households without toilets within the region indicates that 49.6 percent of them were found in Tunduru District and 3.3 percent were from Namtumbo. The percentages of households without toilets in other districts were as follows Mbinga (25.1%), Songea Rural (18.1%) and Songea Urban (3.9%) (2.5%) (Map 3.58).

3.13.3 Household's Assets

Radios were owned by most rural agricultural households in Ruvuma region with 109,159 households (57.1% of the agriculture households in the region) owning the asset, followed bicycles (69,706 households, 36.5%), irons (49,616 households, 26.0%), wheelbarrows (7,944 households, 4.2%), mobile phones (2,460 households, 1.3%), vehicles (2,284 households, 1.2%), TVs/Videos (1,549 households, 0.8%) and landline phones (1,496 households, 0.8%) (Chart 3.150).

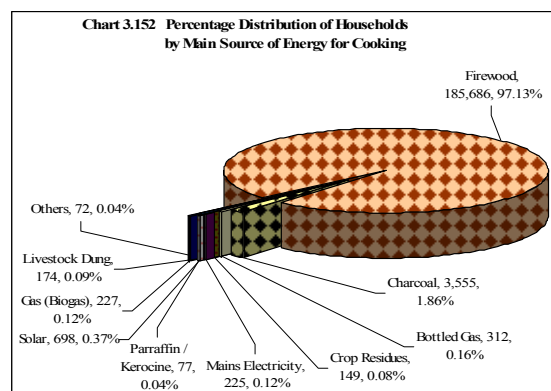


3.13.4 Sources of Lighting Energy

Wick lamp is the most common source of lighting energy in the region. with 50.7 percent of the total rural households using this source of energy followed by hurricane lamp (44.2%), pressure lamp (3.0%), firewood (1.0%), gas or biogas (0.3%) mains electricity (0.3%), candle (0.3%) and solar (0.2%) (Chart 3.153).

3.13.5 Sources of Energy for Cooking

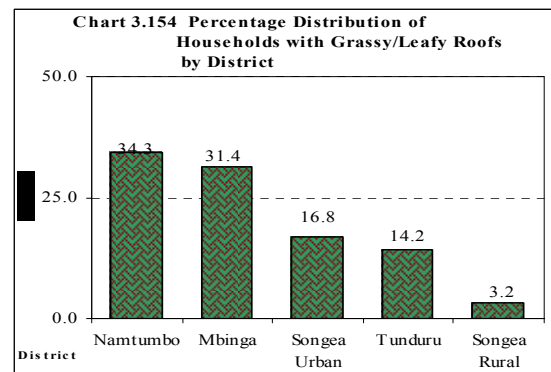
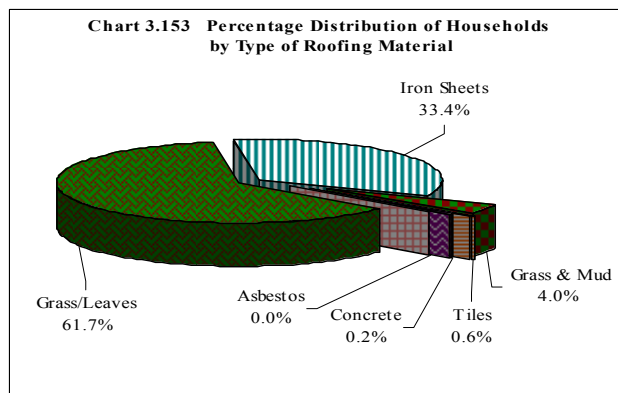
The most prevalent source of energy for cooking was firewood, which was used by 97.1 percent of all rural agricultural households in Ruvuma region. This was followed by charcoal (1.9%). The rest of energy sources accounted for 1.0 percent. These were solar (0.4%), bottled gas (0.2%), crop residues (0.1%), mains electricity (0.1%), solar (0.1%), livestock dung (0.1%), gas/biogas (0.1%), paraffin/kerosene (0.0%) and others (0.0%) (Chart 3.152).



3.13.6 Roofing Materials

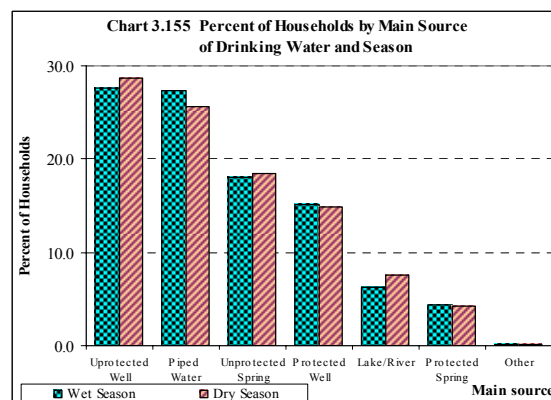
The most common roofing material for the main dwelling was grass and/or leaves which was used by 69.2 percent of the rural agricultural households. This was followed by iron sheets (33.4%), grass/mud (4.0%), tiles (0.6%), concrete (0.2%) and asbestos (0.0%) (Chart 3.153).

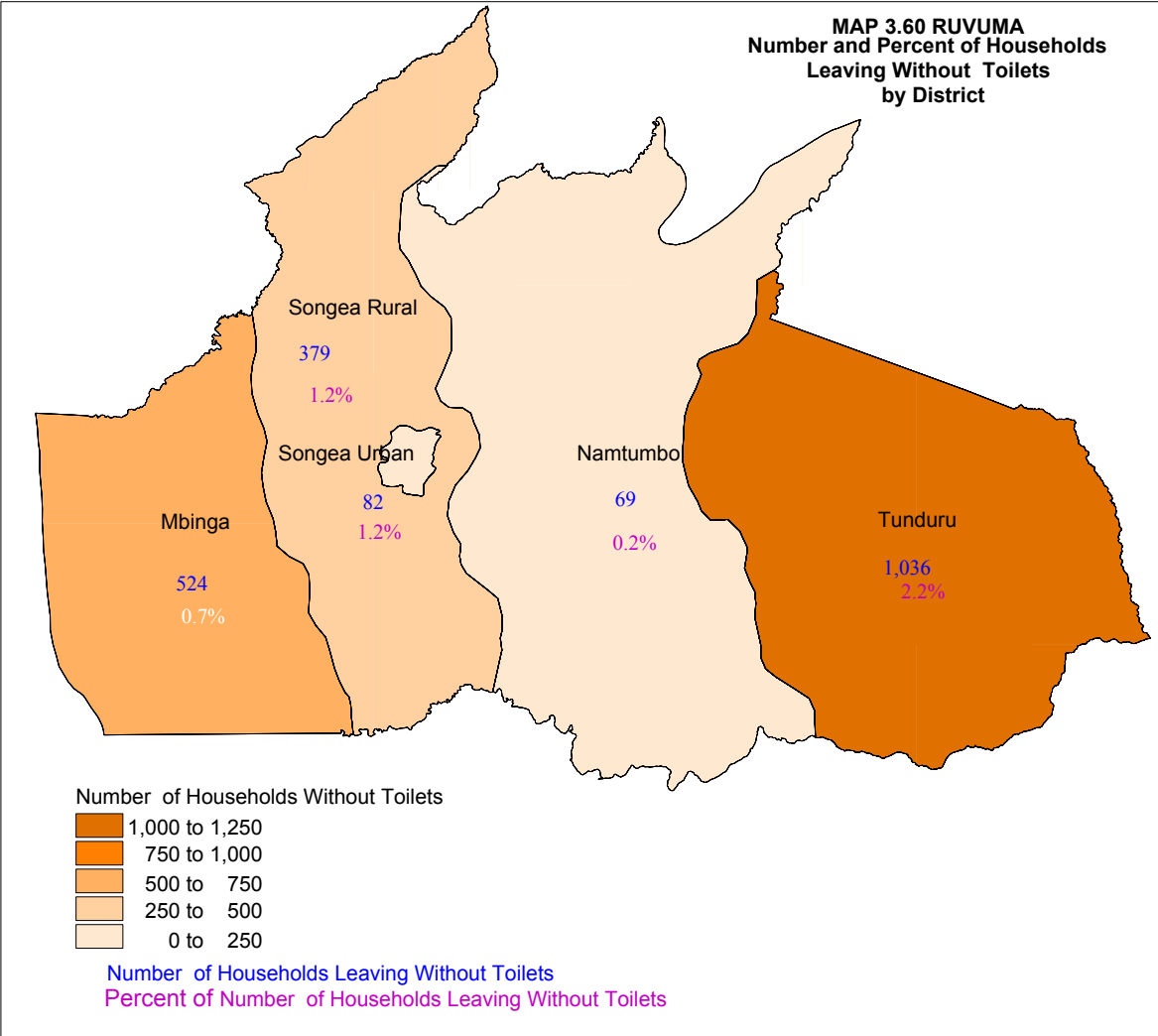
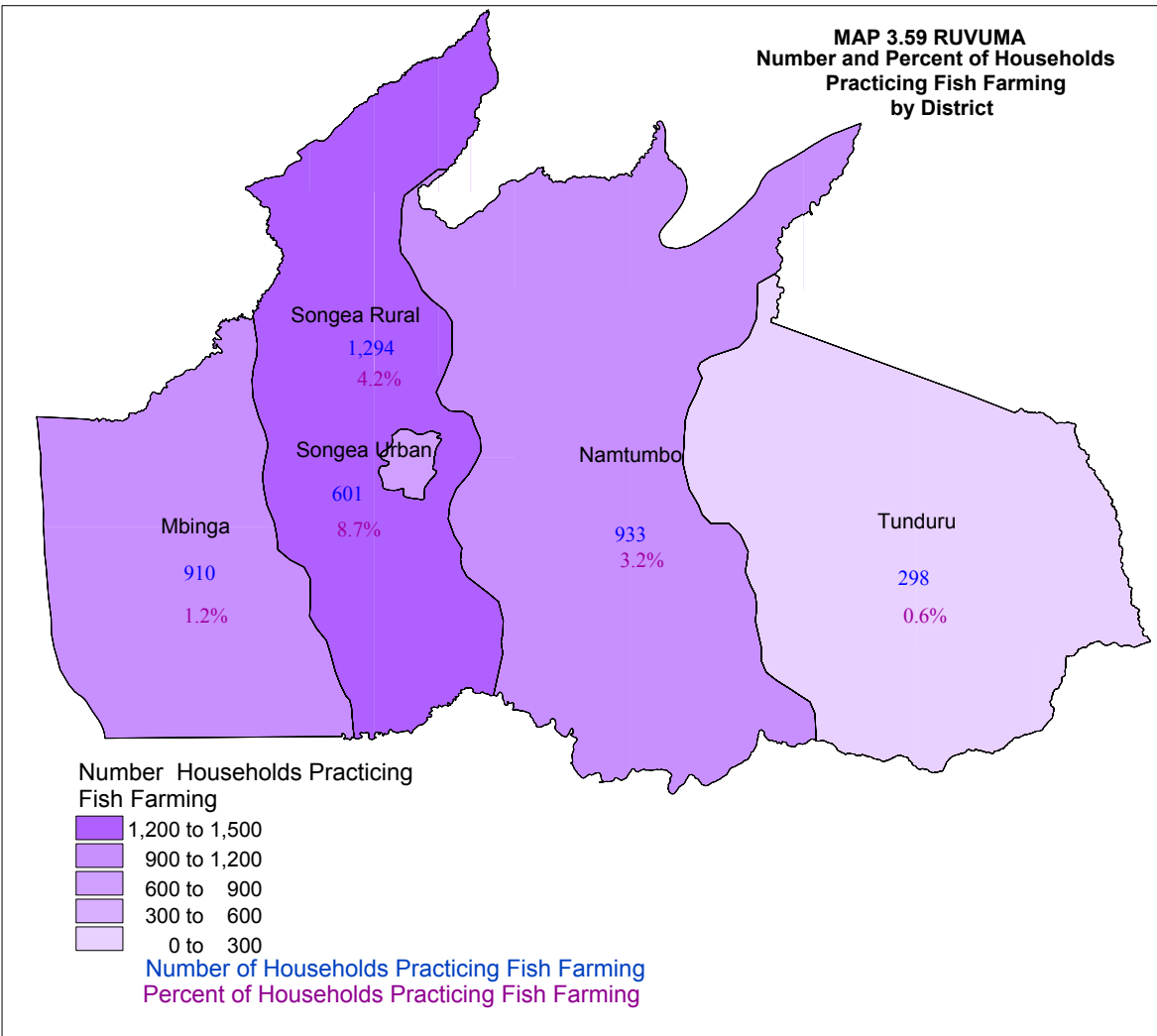
Namtumbo district had the highest percentage of households with grass/leaves roofing (34.3%) followed by Mbinga district (31.4%), Songea Urban (16.8%), Tunduru (14.2%) and Songea Rural (3.2%) (Chart 3.154 and Map 3.59).

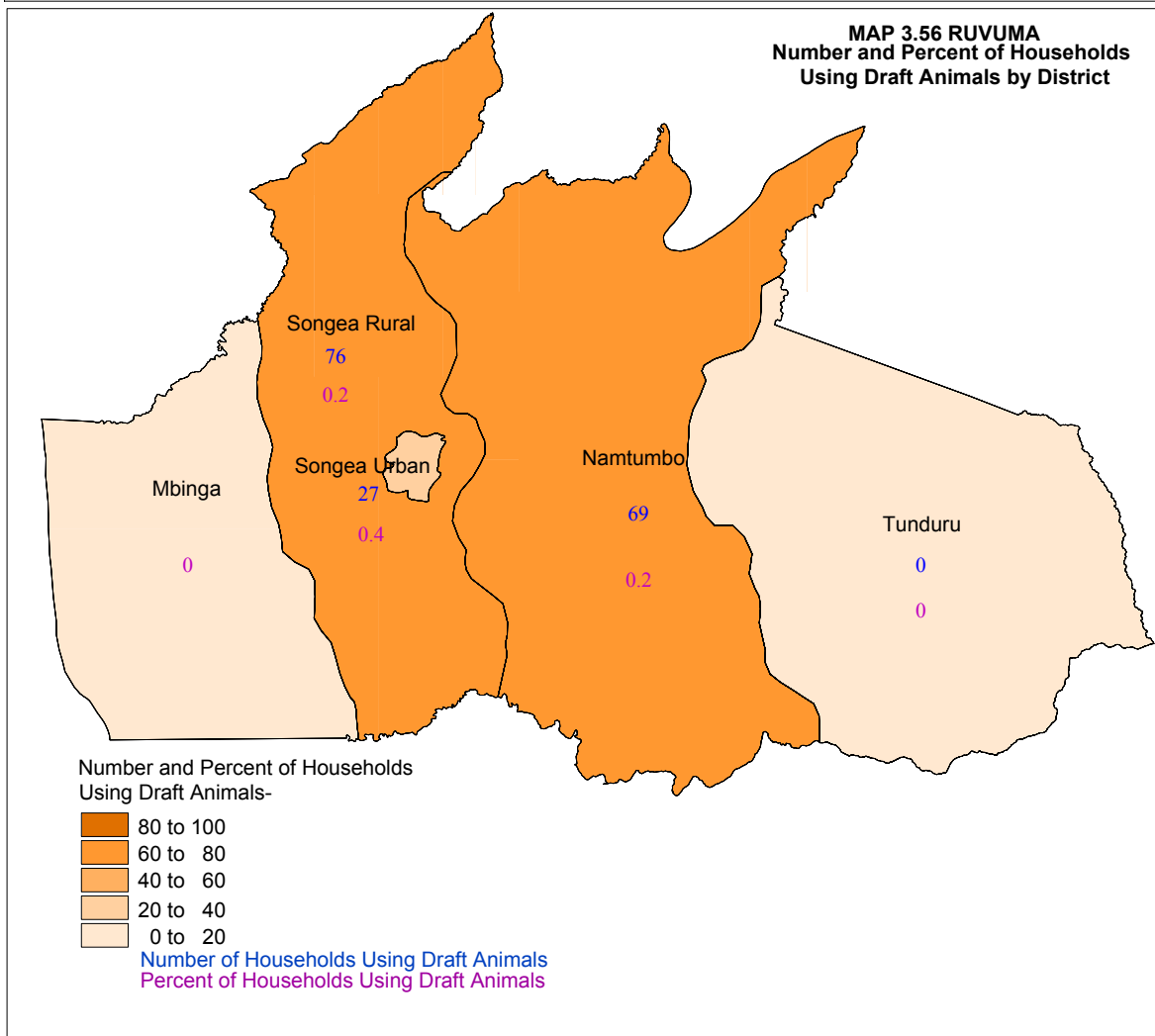
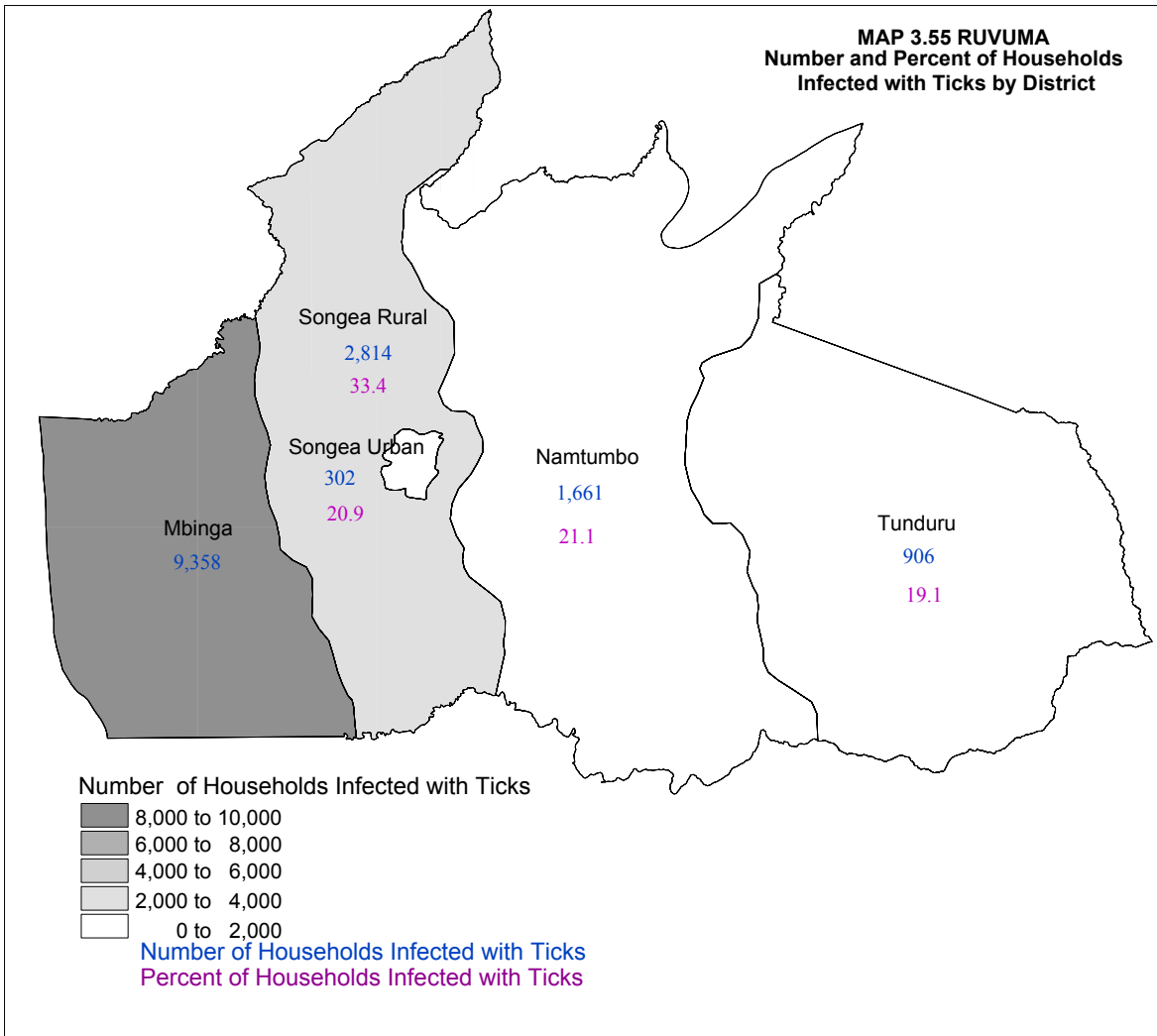


3.13.7 Access to Drinking Water

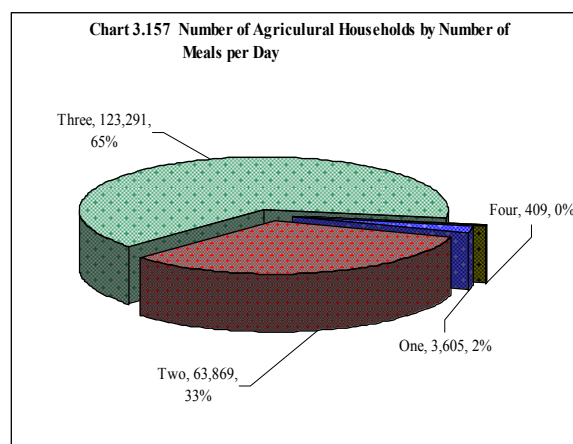
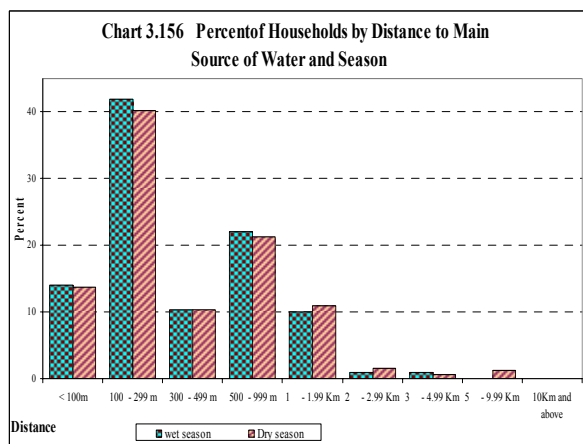
The main source of drinking water for rural agricultural households in Ruvuma region was unprotected well (28 percent of households use unprotected wells during the wet season and 29 percent of the households during the dry seasons. This is followed by piped water (27% of households during the wet season and 26 percent during dry season), unprotected spring (18 % of households during the wet season and 19% in the dry season), protected well (15% of households for each season), lake/river (6 % of households in wet season and 8 % in dry season) and protected spring (4% of households in each season) (Chart 3.155)







About 88 percent of the rural agricultural households in Ruvuma region obtained drinking water within a distance of less than one kilometer during wet season compared to 86 percent of the households during the dry season. However, 12 percent of the agricultural households obtained drinking water from a distance of one or more kilometers during wet compared to 16 percent of households in the dry season. The most common distance from the source of drinking water was between 1 and 2 km (Chart 3.156).



3.13.8 Food Consumption Pattern

3.13.8.1 Number of Meals per Day

The majority of households in Ruvuma region normally have 3 meals per day (64.5 percent of the households in the region). This is followed by 2 meals per day (33.4 percent) and 1 meal per day (1.9 percent). Only 0.2 percent of the households have 4 meals per day (Chart 3.157).

Songea Urban district had the largest percent of households eating one meal per day whilst Tunduru had the highest percent of households eating 3 meals per day. (Table 3.18 and Map 3.60).

3.13.8.2 Meat Consumption Frequencies

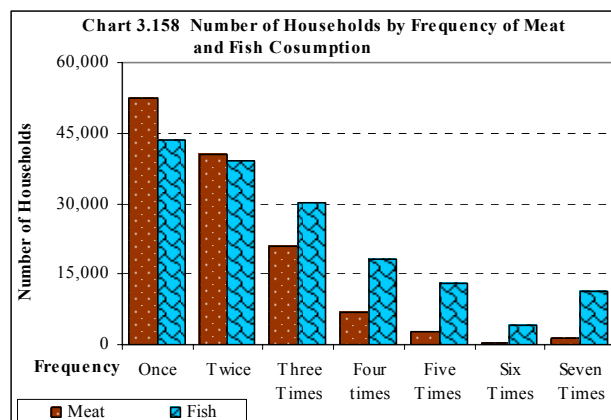
The number of agricultural households that consumed meat during the week preceding the census was 125,147 (65% of the agricultural households in Ruvuma region) with 52,566 households (42 % of those who consumed meat) consuming meat only once during the respective week. This was followed by those who had meat twice during the week (32%). Very few households had meat three or more times during the respective week. About 35 percent of the agricultural households in Ruvuma region did not eat meat during the week preceding the census (Chart 3.159 and Map 3.61).

Table 3.18 Number of Households by Number of Meals the Household Normally Takes per Day and District

District	Number of Meals per Day								
	One	%	Two	%	Three	%	Four	%	Total
Tunduru	318	0.7	7537	16.1	39043	83.3	0	0.0	46898
Songea Rural	0	0.0	12028	39.1	18668	60.7	76	0.2	30772
Mbinga	2,325	3.0	35,417	45.7	39,440	50.9	265	0.3	77,447
Songea Urban	409	5.9	1992	28.7	4542	65.4	0	0.0	6943
Namtumbo	553	1.9	6895	23.7	21598	74.2	69	0.2	29115
Total	3,605	1.9	63,869	33.4	123,291	64.5	409	0.2	191,175

3.13.8.3 Fish Consumption Frequencies

The number of agricultural households that consumed fish during the week preceding the census was 159,245 (83% of the total agricultural households in Ruvuma region) with 43,373 households (27 % of those who consumed fish) consuming fish once during the respective week. This was followed by those who had fish two times (25%). In general, the percentage of households that consumed fish twice or more during the week in Ruvuma region was 115,872 (72.8% of the agricultural households that ate fish in the region during the respective period). About 16.7 percent of the agricultural households in Ruvuma region did not eat fish during the week preceding the census (Chart 3.158 and Map 3.62).

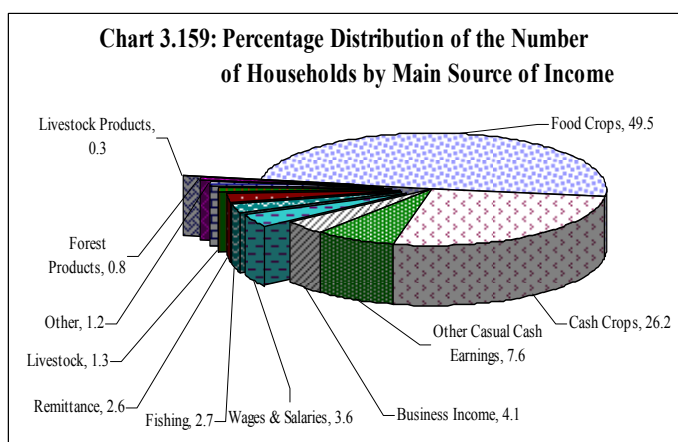


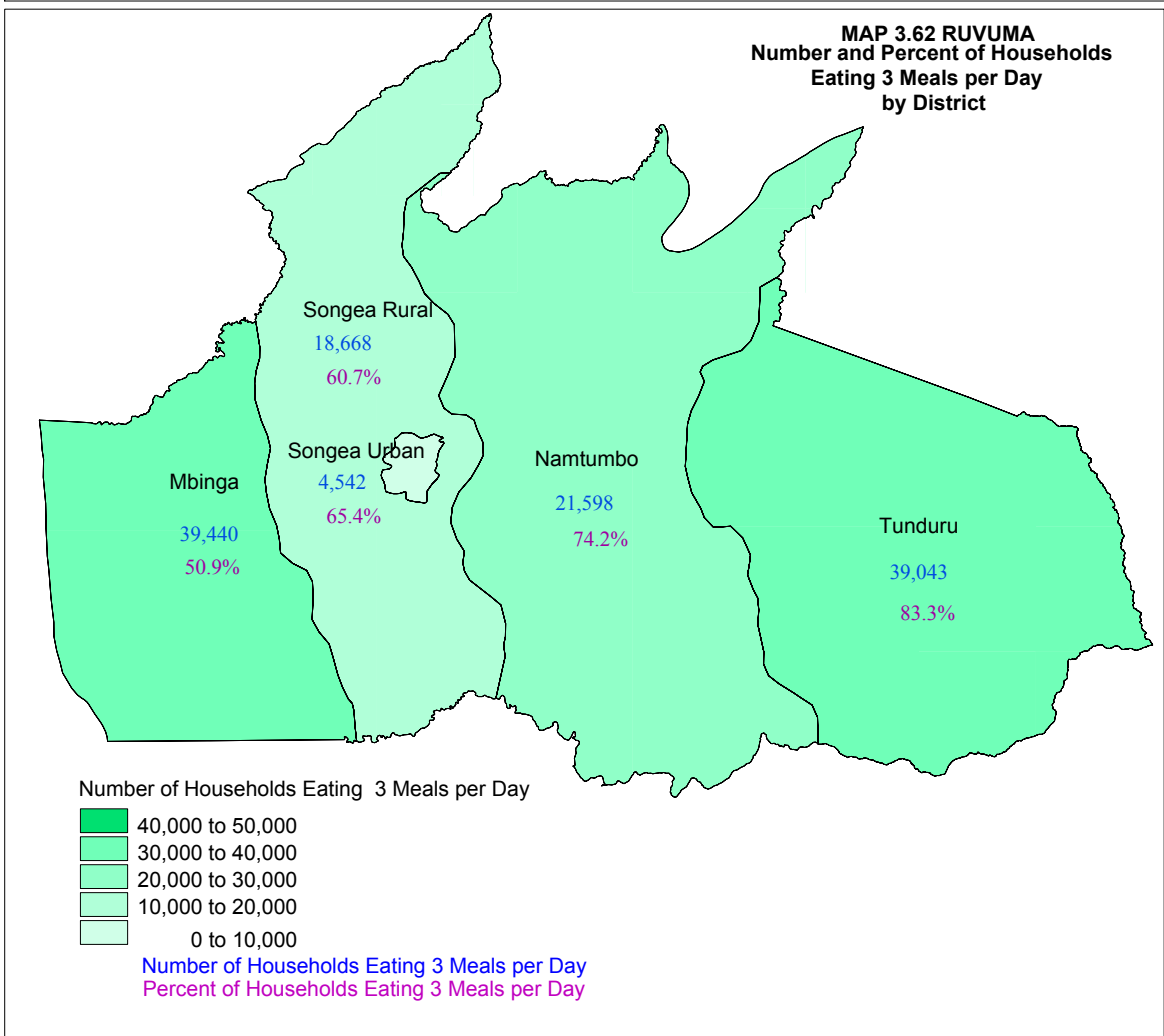
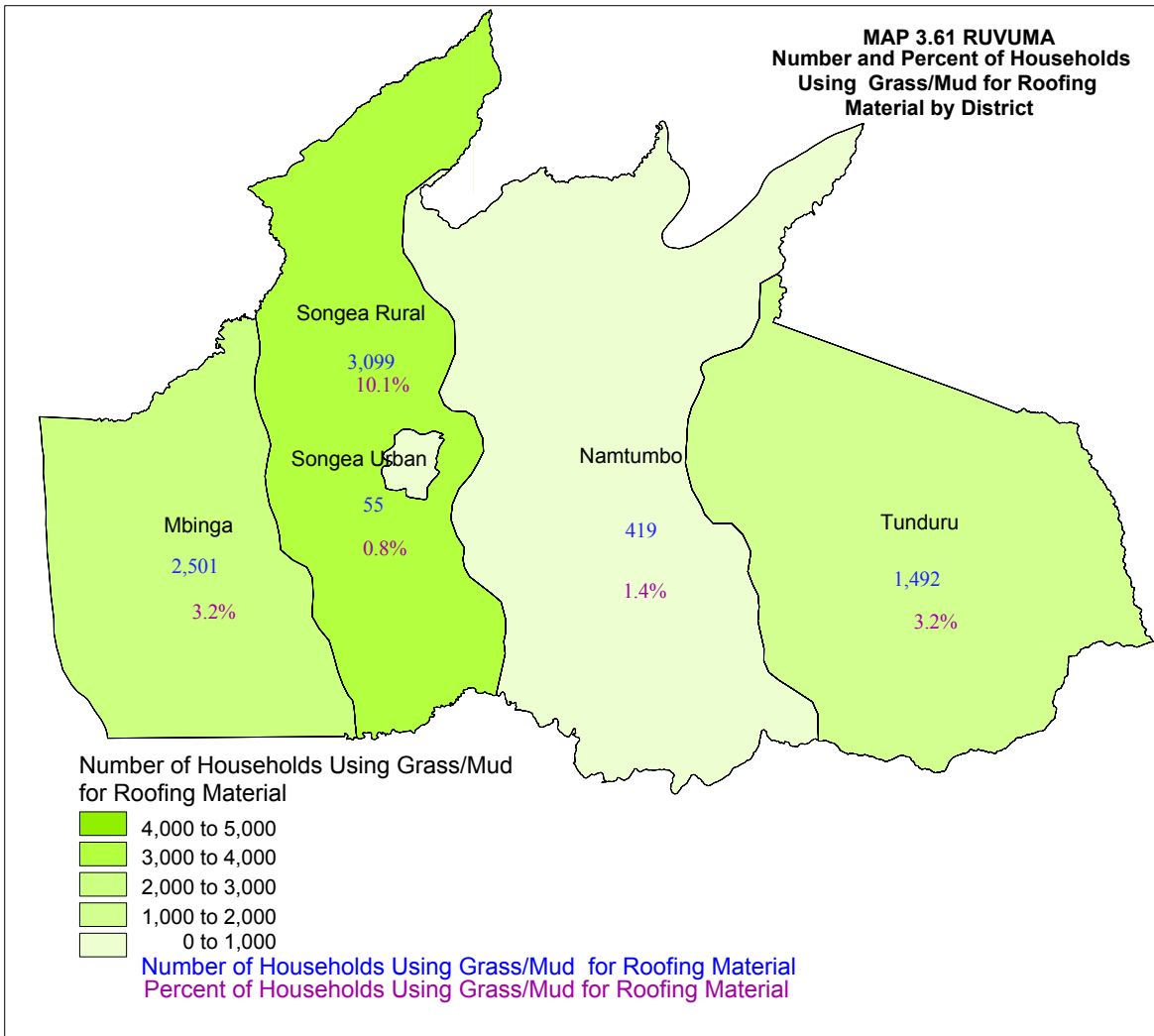
3.13.9 Food Security

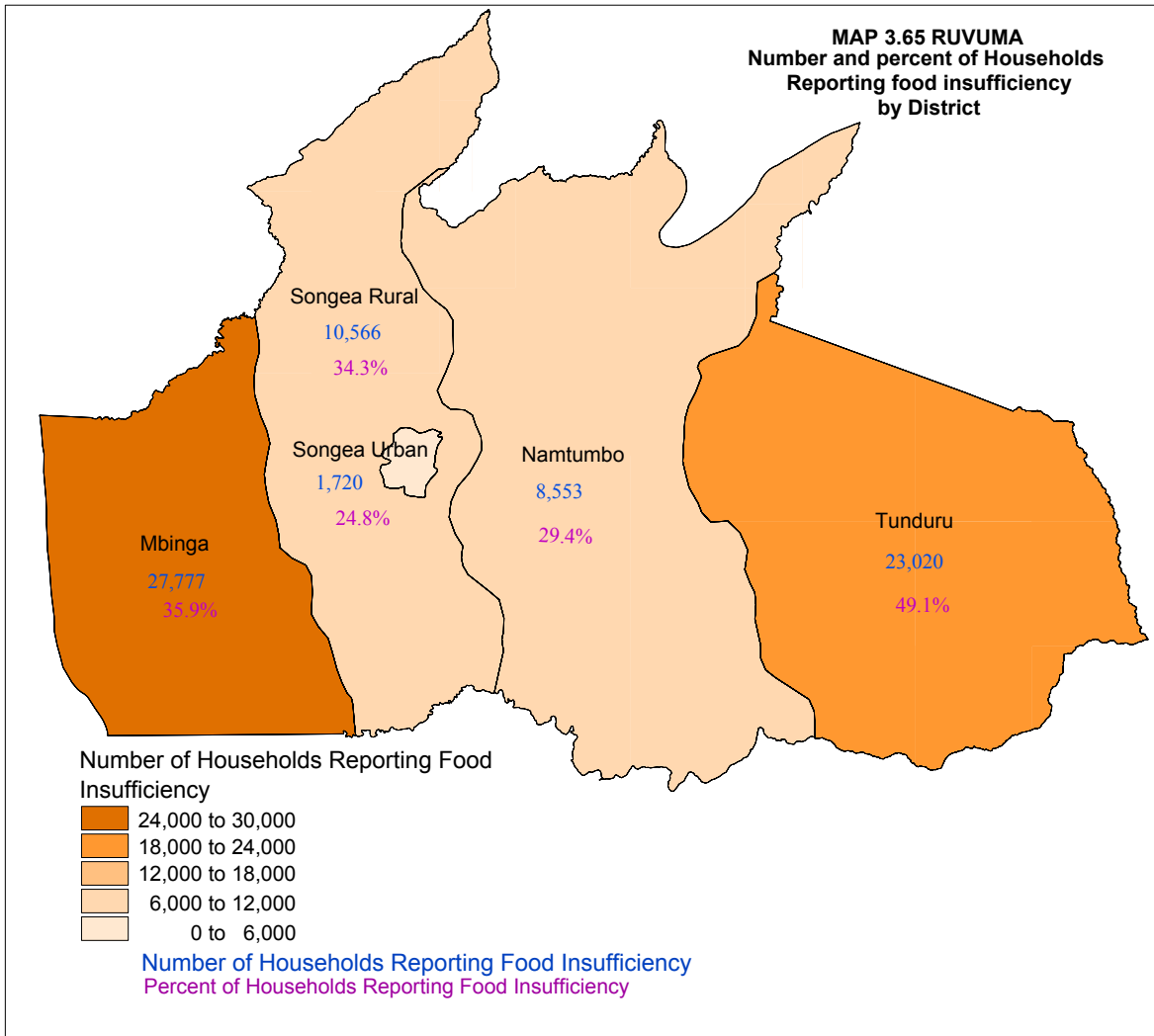
In Ruvuma region, 48,168 households (25% of the total agricultural households in the region) said they rarely experienced problems in satisfying the household food requirements. However 12,550 (6.6%) said they sometimes experienced problems, 2.5 often experienced problems and 3.2 percent always had problems in satisfying the household food requirements. About 63 percent of the agricultural households said they did not experience any food sufficiency problems (Map 3.63).

3.13.10 Main Sources of Cash Income

The main cash income of the households in Ruvuma region was from selling food crops (49.5 percent of smallholder households), followed by selling of cash crops (26%), other casual cash earnings (8%), business income (4%), wages and salaries (4%), fishing (3%), and remittance (3%). Only 1% of smallholder households reported the sale of livestock as their main source of income, followed by other (1%), forest products (1%) and livestock products (0%) (Chart3.159).







Ruvuma region

RUVUMA PROFILES

This section presents the status of crops and livestock production, access to natural resources and services, demography and poverty for both the region as a whole and for each district.

4.1 Ruvuma Region Profile

Ruvuma had a land area of 575,000 hectares under crop production. Although it had a moderate number of crop farming households compared to other regions, it had one of the lowest number of crop growing households per square kilometre. The available land area per household is 4.1 hectares. Of the total available land in the region, it had one of the lowest land utilisation percentages in Tanzania and this is reflected by the lowest number of households responding to insufficient land.

Ruvuma has no short rainy season. Compared to other regions, the average planted area of annual crops per household was above average.

Cereal production in the region was moderate and it was mostly maize and paddy production with one of the smallest areas of sorghum in the country. Cassava was an important crop in the region and the planted area of tobacco was the second largest in the country. Beans and groundnuts were produced in moderate to low quantities, however the region was important for vegetables production.

Ruvuma was the second most important region for the production of cashew nuts, fourth for coffee and fifth for oranges. sugar cane and pigeon peas were also grown in the region.

The region had a small but moderate level of irrigation compared to other regions. There was a slight change in the number of households using irrigation for a period of 10 years. The main source of water for irrigation was rivers and the method of obtaining irrigation water was mostly by buckets/watering cans, closely followed by gravity. Buckets/watering cans were also the most common methods of applying irrigation water. Practically all land was cultivated by hand.

Almost 50 percent of the planted area in Ruvuma was applied with fertilisers and it had the highest percent of inorganic fertilisers application in the country. It had a low to moderate application of pesticides compared to other regions in the country.

Most storage was in sacks/open drums and this was closely followed by locally made traditional structures. The region has the highest percent of households selling crops in the country. Most processing is done by neighbours machine and very little of the processed crops is sold.

The number of households receiving extension is moderate to low. The predominant implement used in the region was the hand hoe, however it had the highest percent of hand powered sprayers and the second highest percent of threshers/shellers. Ruvuma was the fourth region with largest number of planted trees mostly eucalyptus. The number of households with erosion control/water harvesting structures was low, however it had a moderate number of terraces compared to other regions.

4.2 District Profiles

The following district profiles highlights the characteristics of each district and compares them in relation to Population, Main crops and livestock, production and productivity, access to services and resources and levels of poverty.

4.2.1 Tunduru

Tunduru district had the second largest number of households in the region as the highest percent of households in the district that are involved in smallholder agriculture compared to other districts in the region. Most smallholders are involved in crop farming only, followed by crop and livestock. It had very few livestock only households and no pastoralists were found in the district.

The most important livelihood activity for smallholder households in Tunduru district is annual crop farming, followed by permanent crop farming, then off farm income. The district has the highest percent of households without off-farm activities and lowest percent households with more than one member with off-farm income. Compared to other districts in the region, Tunduru had one of the lowest percent of female headed households (13%) and it had one of the lowest average ages of the household head. With an average household size of 4.7 members per household it was average for the region. Tunduru has a comparatively low literacy rate among smallholder households and this is reflected by the high percent of household members that have not attended school. The literacy rates for the heads of household was also lowest in the region.

The district has the largest utilized land area per household (3.2 ha) and it has the highest percent of allocated land that is utilized (82%) in the region, indicating a higher level of land pressure. The total planted area is second largest than in other districts in the region.

Compared to other districts in the region, Tunduru had a moderate production of maize with a planted area of 27,246 hectares, however the planted area per household is the lowest in the region. Tunduru is very important for rice production compared to other districts in the region with planted area of 19,760 hectares it is almost three times more than the other districts in the region. It has also the largest planted area per household compared to other districts in the region. A small amount of sorghum was grown in the Ruvuma region and most of this was grown in Tunduru district (1,845 ha). Cassava production is important in the region accounting for 26 percent of the area planted in the region. The largest planted area with groundnuts was in Tunduru (9,561 ha) and it also had the largest planted area per household. Other oilseed crops were not important in the district. Tomatoes, onions, cabbage and pumpkin were grown in the district, however tomatoes were the most important. A traditional cash crop (e.g. tobacco or cotton) were not important in the district.

Compared to other districts in the region, Tunduru has the highest planted area with permanent crops (79,226), which is dominated by Cashewnuts (71,527 ha). Pigeon peas are also important with a planted area of 4,758 hectares and is highest in the region. Other permanent crops are either not grown or are grown in small quantities.

As with other districts in the region, practically all land clearing and preparation is done by hand.

The use of inputs in the district is small. The district has one of the lowest planted areas with fertilizers however, of the small area with fertilizer most was with inorganic fertilizer. Compared to other districts in the region, Tunduru district has the smallest level of insecticide use, however it had the highest herbicide use and the second highest fungicide use in the

region. The district had a moderate to high planted area under irrigation compared to other districts with around 2,100ha of irrigated land. The most common source of water for irrigation is from rivers using hand bucket. Bucket/watering can is the most common means of application.

The most common method of crop storage is in locally made traditional cribs. Tunduru had stored the smallest proportion of its crop. Tunduru has the highest percent of households processing on farm by hand and it sold practically none of its processed products. Although very small, access to credit in the district is mainly to men and the main sources are from Co-operative and saving and credit societies.

Tunduru had one of the lowest percent of households receiving extension and all of this is from the government.

Tree farming in Tunduru was not reported and erosion control/water harvesting facilities were not common.

Tunduru district has a small number of cattle (4,040 head) in the region and they are all indigenous. Goat production is the second smallest compared to other districts, however it has the second largest population of sheep in the region. It has the smallest number of pigs in the region and the second smallest number of chickens. The district has no layers, but a small number of broilers. It has the largest number of ducks in the region and small numbers of rabbits and donkeys are kept. The highest percent of households reporting tsetse fly problems was in Tunduru district while the percent of households reporting tick problems in the district was the smallest. It had the fourth largest percent of households deworming livestock. The use of draft animals in the district was almost absent, Tunduru had the least number of households practicing fish farming.

It has the one of the best access to primary schools and primary markets compared to other districts. However, it has the worst access to Secondary schools, tarmac roads, feeder roads and regional capital.

Tunduru district has the highest percent of households with no toilet facilities and it the second highest percent of households owning a radio. The most common form of energy for lighting is the wick lamp followed by hurricane lamp. A small number of farmers use mains electricity and practically all households use firewood for cooking. The district has the second smallest percent of households with grass roofs. The most common source of drinking water is from unprotected wells. It has the highest percent of households having three meals per day compared to other districts and one of the lowest percent with two meals per day. The district had the highest percent of households that did not eat meat or fish during the week prior to enumeration, however most households seldom had problems with food satisfaction.

4.2 Songea Rural

Songea Rural district had the second smallest number of households in the region and the third highest percentage of households in the district that were involved in smallholder agriculture compared to other districts in the region. Most smallholders were involved in crop farming only, followed crop and livestock. It has no livestock only households or pastoralists.

The most important livelihood activity for smallholder households Songea Rural district is annual crop farming, followed by permanent crop farming and off farm income. It had the lowest percent of households with no off-farm activities and it had the highest percent of households with more than two members with off-farm income. Compared to other districts in

the region, Songea Rural had the highest percent of female headed households (18%) and it had one of the highest average ages of the household head in the region. With an average household size of 4.6 members per household it was almost average for the region.

It has a moderate utilized land area per household (1.9 ha) and only 69 percent of the allocated area is currently being utilized. The district has the third largest planted area in the region.

The district is moderately important for maize production in the region with a planted area of 28,503 hectares, however the planted area per household is high for the region. Paddy production is low to moderate with a planted area of 6,187 hectares. Finger millet is grown in moderate amounts (2,941 ha) and cereals are not important in the district.

Songea Rural had a planted area of 11,465 hectares under cassava (second lowest in the region) and the production of sweet potatoes was small. The district had a small planted area of groundnuts. The district is one of the least important for vegetable production and the most important are tomatoes, cabbage and onions.

Compared to other districts in the region, Songea Rural has a small to moderate area with permanent crops of with 5,655 hectares. This is dominated by bananas (1,622 ha) and a small area of pigeon peas (582 ha). Other permanent crops are either not grown or are grown in small quantities.

As with other districts in the region, practically all land clearing and preparation is done by hand.

The use of inputs in the district is moderate. The district has a moderate planted area with fertilisers (Farm yard manure, compost and inorganic fertilizer and most of this is inorganic fertiliser. Compared to other districts in the region, Songea Rural district has one of the highest levels of insecticide use. It has the smallest use of herbicides in the region and one of the smallest uses of fungicides.

It has the smallest area with irrigation compared to other districts with 3,377 ha of irrigated land.

Although the district has the second largest number of cattle in the region it only has a small number and they are mostly indigenous with some dairy. Goat and sheep production is moderate compared to other districts in the region. It has a small number of pigs and a moderate number of chickens. Some ducks, rabbits and turkeys are also found in the district, however donkeys are absent. A percent of households reporting tick problems in Songea Rural district is second highest compared to other districts in the region and it had moderate percent of households reporting tsetse problems. It had the second highest percent of households de-worming livestock. The district has a small number of households using draft animals. It has the largest number of households practicing fish farming.

It has one of the worst access to secondary schools, hospitals, health clinics and primary and secondary markets, however it has good access to primary schools and feeder roads compared to other districts.

The percentages of households without toilet facility in Songea Rural district is 18.1 percent. It has very few households using mains electricity. The most common source of energy for lighting is the hurricane lamp followed by wick lamp and practically all households use firewood for cooking. The roofing material for most of the households in the district is

grass/leaves (55%) and iron sheets (34%). The most common source of drinking water is from protected wells. It has the highest percent of households having two meals per day. The district had the second lowest percent of households that did not eat meat or fish during the week prior to enumeration and it has a low to moderate percent of households that always had problems with food satisfaction.

4.3 Mbinga

Mbinga district had the largest number of households in the region and it has the fourth largest percent of households in the district involved in smallholder agriculture compared to other districts in the region. Most smallholders are involved in crop farming only, followed by both crop and livestock. It has a small number of livestock only households and no pastoralists were found in the district.

The most important livelihood activity for smallholder households in Mbinga district is annual crop farming, followed by permanent crop farming. The district has the third highest percent of households with no off-farm income activities and the second lowest percent of households with more than one member with off-farm income. Compared to other districts in the region, Mbinga has the third highest percent of female headed households (15%). With an average household size of 4.6 members per household it is around average for the region. Mbinga has the second highest literacy rate among smallholder households and the second lowest number household members that have never attended school in the region.

The land area utilized per household (2.9ha) is around the average for the region of 3.0 hectares and 80 percent of the allocated area is currently being utilized which is moderate for the region. The district has the highest planted area in the region, and the second smallest planted area per household.

Mbinga is the most important district in the region maize production planted area of 50,346 ha and the planted area per household of 0.74 hectares which is equal to the average for the region (0.8 ha). Paddy production is not important with a planted area of only 3,721 hectares and it is second lowest in the region. Wheat and finger millet were grown in the region.

The district had the largest planted area of cassava accounting for 45 percent of the cassava planted area in the region. The district also had the largest planted area of beans (3,648 ha) Groundnut production was not important in the district and a small area of vegetables are grown (tomatoes, cabbage and onions).

Mbinga has the second highest area planted with permanent crops (33,295 ha) and this is dominated by coffee (29,312 ha) which is the highest in the region. Bananas were also grown (1,096 ha) and other permanent crops are either not grown or are grown in small quantities.

As with other districts in the region, practically all land clearing and preparation is done by hand.

The district has the largest number of cattle in the region and they are almost all indigenous apart from a small number of dairy cattle. It has the largest number of goat, sheep, pigs and chickens compared to other districts in the region. It has the second largest number of pigs in the region and the largest number of chickens. The district has the largest number of rabbits and donkeys in the region and second highest number of ducks. The district had the highest percent of households reporting tick problems in the region. Mbinga had the highest percent of households deworming livestock. The use of draft

animals in the district is very small. A small number of households practice fish farming, however the district has the third largest number in the region.

Compared to other districts, it has a moderate access to infrastructure and services.

Mbinga district has a moderate percent of households with no toilet facilities compared to other districts in the region and it has a high number of households owning radios and irons. Very few households use mains electricity in the region. The most common source of energy for lighting is the hurricane lamp followed by wick lamp and practically all households use firewood for cooking. The district has a high percent of households with grass roofs (52%) with 44 percent of households having iron sheets. The most common source of drinking water is from unprotected springs and wells. Fifty percent of the households in the district reported having three meals per day. The district had a moderate percent of households that did not eat meat or fish during the week prior to enumeration; however a large percent of households never had problems with food satisfaction.

4.4 Songea Urban

Songea Urban district had the lowest number of households in the region and the third lowest percent of households in the district that were involved in smallholder agriculture compared to other districts in the region. Most smallholders were involved in crop farming only, followed by crop and livestock. It had no livestock only households and no pastoralists were found in the district.

The most important livelihood activity for smallholder households in Songea Urban district is annual crop farming followed off farm income and permanent crop farming. It has the lowest percent of households with no off-farm income activities and the highest percent of households with more than one member with off-farm income. Compared to other districts in the region, Songea Urban district has the second highest percent of female headed households in the district (28%). With an average household size of 4.8 members per household it is slightly above average for the region. Songea Urban district has the highest literacy rate among smallholder households in the region and this is reflected by the lowest percent of household members that have never attended schools in the region.

It has the smallest utilized land area per household (2 ha) and 78 percent of the allocated land area was utilized. The total planted area was very low compared to other districts in the region and it had the smallest planted area per household.

Maize production is the most important crop in the district with a planted area of (4,600 ha,) and a planted area per household of 0.64 ha. However the area planted is the lowest in the region. Paddy production is not important in the district and other cereals were either not grown or were grown in very small quantities.

Roots and tubers are not important in the district in the region and beans were grown in moderate to small quantities. Oilseed crops are not important, however vegetables are important in terms of the percent of the area of land in the district with vegetables. Cash crops are not important in the district.

Compared to other districts in the region, Songea Urban district is not important for permanent crops (1,603 ha) with practically all being under bananas (1,307 ha).

As with other districts in the region, practically all land clearing and preparation is done by hand.

The district has the smallest planted area with fertilizers (Farm yard manure, compost and inorganic fertilizer), however it has the highest proportion of its planted area with fertilizer application and most of this is with inorganic fertilizer.

Compared to other districts in the region, Songea Urban district has the percent of its planted area with insecticide, a comparatively moderate percent with herbicides and a low percent with fungicides. It has one of the smallest areas of irrigation in the region. The most common method of obtaining and applying water is by hand buckets/ Bucket

Songea Urban has the smallest number of cattle in the region and all of them are dairy. It has the least number of goats and sheep and the second lowest number of pigs in the region. It has also the smallest number of chickens. Small numbers of ducks and rabbits are also found in the district. A small percent of households reported Tsetse and tick problems and it had the lowest percent of households de-worming livestock. The use of draft animals in the district is very small. Very small number of households practice fish farming in the district.

It has the best access to infrastructure and services in the region.

Songea Urban district has the smallest percent of households with no toilet facilities in the region. It has the largest number of households using mains electricity in the region. The most common source of energy for lighting is the wick lamp followed by hurricane lamp and most households use firewood for cooking, however it had the highest percent using charcoal. The district has the highest percent of households with using iron sheet roofing (45%) with 55 percent of households using grass. The most common source of drinking water is unprotected well. Three meals per day is the most common and it has the third highest percent of households that did not eat meat during the week prior to enumeration. However most households never or seldom have problems with food satisfaction.

4.5 Namtumbo

Namtumbo district has the third highest number of households in the region and it has the fourth highest percent of households in the district involved in agriculture compared to other districts in the region. Most smallholders are involved in crop farming only, followed by crop and livestock farming. It has a relatively small number of livestock only households and no pastoralists were found in the district.

The most important livelihood activity for smallholder households in Namtumbo district is Annual Crop Farming followed by Permanent Crop Farming, Livestock Keeping/Herding and Off-Farm Income. The district has the second highest percent of households with no off-farm activities and the second lowest percent of households with more than one member with off-farm income. Compared to other districts in the region, Namtumbo has the lowest percent of female headed households (9%). With an average household size of 5.3 members per household it is higher than the regional average of 4.7 members. Namtumbo has the second lowest literacy rate among smallholder households in the region.

It has the second highest utilized land area per household (3.2 ha) which is the same as the regional average. Around 95 percent of the allocated land is utilized. The district only has one season.

The district has the second largest planted area of maize compared to other districts in the region (28,809ha) and the planted area per household is among the highest in the region. Paddy production is moderately important with a planted area of 7,440 hectares. Finger Millet is also grown in the district with a planted area of 3,497 hectares. Other cereals are grown in minor quantities. Namtumbo has the third largest planted area of Cassava (11,605ha) in the region. Other root and tuber crops were grown in small quantities. The production of beans in the district is moderate to low (4,877 ha) and groundnut production was also low (2,046 ha). Vegetable production is not very important, however tobacco is an important cash crop in the district with a planted area of 5,602 hectares.

Compared to other districts in the region, Namtumbo district is not important for permanent crops (5,233 ha) with bananas being the most important (2,704 ha) and is the highest in the region.

As with other districts in the region, practically all land clearing and preparation is done by hand.

The district has the largest planted area with inorganic fertilizer and one of the smallest planted areas with farm yard manure. Namtumbo has one of the smallest percent of its planted area applied with insecticides and herbicides. The district has the second largest planted area and gravity is the most common means of conveying water and field application by flood was most common.

The district has the second smallest number of cattle in the region and they are mostly dairy. It has the second highest number of goats and second lowest number of sheep. It has a the second highest number of chickens. Ducks and rabbits found in the district in small numbers. A moderate number of households reported Tsetse and tick problems in the district. The use of draft animals in the district is small however it has the second d highest number of households practicing fish farming in the region

It is amongst the districts with the best access to primary schools and health clinics, however it has one of the worst access to all weather roads, feeder roads, hospitals, secondary markets and tertiary markets.

Namtumbo district has the second highest percent of households with no toilet facilities. It has the second largest number of households using mains electricity in the region. The most common source of energy for lighting is the hurricane lamp followed by the wick lamp and practically all households use firewood for cooking. The district has one of the largest percent of households with grass roofs (68%) and only 29 percent of households have iron sheets. The most common source of drinking water is piped water. It has a moderate percent of households having two or one meal per day compared to other districts and is among the districts with a high percent of households with 3 meals per day. Most households in the district n ever have problems with food satisfaction.

4. APPENDICES

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TYPE OF AGRICULTURE HOUSEHOLD

2.1 TYPE OF AGRICULTURE HOUSEHOLD: Number of Agricultural Households by type of household and District during 2002/03 Agriculture Year

District	Agriculture, Non Agriculture and Urban Households								
	Rural households involved in Agriculture	% of Total rural households	Rural households NOT involved in Agriculture	% of Total Rural households	Total Rural Households	% of Total households	Urban Households	% of Total households	Total Number of Households (from 2002 Pop. Census)
	Number	%	Number	%	Number	%	Number	%	Number
Tunduru	46,898	98	1,094	2	47,992	90	5,065	10	53,057
Songea Rural	30,772	99	386	1	31,158	99	356	1	31,514
Mbinga	77,447	98	1,929	2	79,376	94	5,293	6	84,669
Songea Urban	6,943	99	61	1	7,004	23	23,098	77	30,102
Namtumbo	29,115	99	269	1	29,384	89	3,614	11	32,998
Total	191,175	98	3,739	2	194,914	84	37,426	16	232,340

2.2 TYPE OF AGRICULTURE HOUSEHOLD: Number of Agriculture Households By Type of Holding and District during 2002/03 Agricultural Year

District	Type of Agriculture Household								Total Number of Agriculture Households	Total Number of Households Growing Crops	Total Number of Households Rearing Livestock
	Crops Only		Livestock Only		Crops & Livestock		Total				
	Number of households	%	Number of households	%	Number of households	%	Number of households	%			
Tunduru	41,622	29	0	0	5,276	11	46,898	25	46,898	46,898	5,276
Songea Rural	22,195	16	0	0	8,578	17	30,772	16	30,772	30,772	8,578
Mbinga	52,111	37	132	100	25,204		77,447	41	77,447	77,315	25,335
Songea Urban	5,144	4	0	0	1,799	4	6,943	4	6,943	6,943	1,799
Namtumbo	20,548	15	0	0	8,567	17	29,115	15	29,115	29,115	8,567
Total	141,619	100	132	100	49,424	100	191,175	100	191,175	191,043	49,556

NUMBER OF AGRICULTURE HOUSEHOLDS

3.0: HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Households and Average Household Size By Sex of the Head of

District	Male			Female			Total		Average Household Size
	Number	%	Average Household Size	Number	%	Average Household Size	Number	%	
Tunduru	40,976	87	5	5,922	13	4	46,898	100	5
Songea Rural	25,232	82	5	5,540	18	4	30,772	100	5
Mbinga	65,745	85	5	11,701	15	4	77,447	100	4
Songea Urban	5,852	84	5	1,090	16	4	6,943	100	5
Namtumbo	26,542	91	5	2,573	9	4	29,115	100	5
Total	164,347	86	5	26,827	14	4	191,175	100	5

Table 3.1 The Livelihood Activities/Source of Income of the Households Ranked in Order of

District	Livelihood Activity						
	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Tunduru	1	2	4	3	5	6	7
Songea Rural	1	2	4	3	5	6	7
Mbinga	1	2	3	4	5	6	7
Songea Urban	1	3	4	2	5	6	7
Namtumbo	1	2	3	4	5	6	7
Total	1	2	4	3	5	6	7

RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES

3.1a RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: First Most Importance

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Tunduru	25,225	15,535	318	4,772	522	98	421
Songea Rural	23,860	680	530	4,485	841	227	303
Mbinga	26,035	33,408	2,303	8,352	2,473	4,993	0
Songea Urban	3,573	431	245	2,446	220	0	82
Namtumbo	26,033	1,360	0	1,146	286	142	434
Total	104,726	51,415	3,396	21,201	4,341	5,460	1,241

3.1b RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Second Most Importance

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Tunduru	17,901	21,111	1,028	4,335	422	107	2,317
Songea Rural	5,850	7,005	5,692	9,945	758	380	1,672
Mbinga	32,750	17,986	12,877	10,934	1,926	875	1,017
Songea Urban	2,554	2,372	628	1,120	134	0	241
Namtumbo	2,432	12,389	4,466	6,613	861	145	2,281
Total	61,487	60,862	24,691	32,948	4,101	1,507	7,528

3.1c RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Third Most Importance

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Tunduru	2,932	4,029	5,919	9,302	1,220	960	21,581
Songea Rural	835	8,345	8,443	4,261	1,127	380	7,229
Mbinga	11,287	10,217	27,135	14,607	2,577	1,270	5,915
Songea Urban	569	2,458	1,445	1,034	189	27	1,004
Namtumbo	361	5,675	8,289	4,453	1,290	360	7,326
Total	15,983	30,724	51,231	33,657	6,404	2,997	43,055

3.1d RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Fourth Most Importance

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Tunduru	0	2,059	5,138	3,337	2,071	213	16,809
Songea Rural	152	6,385	6,469	2,356	1,287	303	11,619
Mbinga	3,372	6,082	16,348	12,283	2,860	2,323	11,656
Songea Urban	136	706	2,071	870	439	54	1,990
Namtumbo	218	3,162	4,509	4,163	720	429	10,947
Total	3,877	18,394	34,536	23,009	7,377	3,322	53,021

3.1e RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Fifth Most Importance

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Tunduru	0	1,026	2,595	1,024	1,233	318	3,789
Songea Rural	0	4,872	2,591	1,682	534	0	6,915
Mbinga	2,063	1,396	3,726	4,286	3,120	645	11,879
Songea Urban	82	190	573	191	220	137	2,530
Namtumbo	73	1,648	2,443	1,144	217	214	6,905
Total	2,218	9,132	11,927	8,328	5,324	1,314	32,018

3.1f RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES:Sixth Most Importance

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Tunduru	0	0	320	0	107	0	318
Songea Rural	0	306	229	154	0	76	382
Mbinga	248	381	380	521	785	132	2,326
Songea Urban	0	0	54	27	0	0	218
Namtumbo	0	0	71	73	0	0	290
Total	248	687	1,053	775	892	208	3,535

HOUSEHOLDS DEMOGRAPHYS

3.2 HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members By Sex and Age Group for the 2002/03 Agricultural Year (row %)

Age Group	Sex					
	Male		Female		Total	
	Number	%	Number	%	Number	%
Less than 4	62,317	49	64,189	51	126,506	100
05 - 09	63,411	50	63,734	50	127,146	100
10 - 14	65,022	51	63,131	49	128,153	100
15 - 19	47,274	50	47,037	50	94,311	100
20 - 24	33,005	44	42,356	56	75,361	100
25 - 29	29,388	45	35,733	55	65,121	100
30 - 34	28,779	48	31,479	52	60,259	100
35 - 39	23,264	48	25,396	52	48,660	100
40 - 44	20,803	53	18,285	47	39,087	100
45 - 49	14,503	51	14,002	49	28,504	100
50 - 54	11,783	47	13,401	53	25,184	100
55 - 59	9,615	51	9,352	49	18,968	100
60 - 64	8,432	51	8,191	49	16,624	100
65 - 69	7,675	52	7,201	48	14,876	100
70 - 74	6,752	59	4,701	41	11,453	100
75 - 79	3,187	63	1,865	37	5,052	100
80 - 84	2,365	66	1,241	34	3,606	100
Above 85	1,221	44	1,571	56	2,792	100
Total	438,796	49	452,866	51	891,662	100

3.3 HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members By Sex and Age Group for the 2002/03 Agricultural Year (column %)

Age Group	Sex					
	Male		Female		Total	
	Number	%	Number	%	Number	%
Less than 4	62,317	14	64,189	14	126,506	14
05 - 09	63,411	14	63,734	14	127,146	14
10 - 14	65,022	15	63,131	14	128,153	14
15 - 19	47,274	11	47,037	10	94,311	11
20 - 24	33,005	8	42,356	9	75,361	8
25 - 29	29,388	7	35,733	8	65,121	7
30 - 34	28,779	7	31,479	7	60,259	7
35 - 39	23,264	5	25,396	6	48,660	5
40 - 44	20,803	5	18,285	4	39,087	4
45 - 49	14,503	3	14,002	3	28,504	3
50 - 54	11,783	3	13,401	3	25,184	3
55 - 59	9,615	2	9,352	2	18,968	2
60 - 64	8,432	2	8,191	2	16,624	2
65 - 69	7,675	2	7,201	2	14,876	2
70 - 74	6,752	2	4,701	1	11,453	1
75 - 79	3,187	1	1,865	0	5,052	1
80 - 84	2,365	1	1,241	0	3,606	0
Above 85	1,221	0	1,571	0	2,792	0
Total	438,796	100	452,866	100	891,662	100

3.4 HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members by Sex and District for the 2002/03 Agricultural Year

District	Sex					
	Male		Female		Total	
	Number	%	Number	%	Number	%
Tunduru	107,710	49	110,626	51	218,336	100
Songea Rural	71,487	50	70,183	50	141,670	100
Mbinga	167,019	49	176,141	51	343,160	100
Songea Urban	16,819	50	16,549	50	33,368	100
Namtumbo	75,761	49	79,367	51	155,128	100
Total	438,796	49	452,866	51	891,662	100

3.5 HOUSEHOLDS DEMOGRAPHYS: Number of Agriculture Household Members 5 years and above Who Can Read and Write Languages by Type of Language and District, 2002/03 Agricultural Year

District	Read & Write									
	Swahili		Swahili & English		Any Other Language		Don't Read / Write		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Tunduru	119,349	63.3	1,460	0.8	105	0.1	67,557	35.8	188,472	100
Songea Rural	90,934	74.5	4,435	3.6	77	0.1	26,688	21.9	122,134	100
Mbinga	217,425	73.7	18,116	6.1	0	0.0	59,370	20.1	294,911	100
Songea Urban	23,106	78.7	1,337	4.6	0	0.0	4,904	16.7	29,347	100
Namtumbo	92,540	71.0	4,902	3.8	145	0.1	32,706	25.1	130,292	100
Total	543,354	71.0	30,250	4.0	327	0.0	191,226	25.0	765,156	100

3.6 HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members 5 years and above By

District	School Attendance							
	Attending School		Completed		School		Total	
	Number	%	Number	%	Number	%	Number	%
Tunduru	48,507	26	79,091	42	60,873	32	188,472	100
Songea Rural	37,861	31	65,226	53	19,047	16	122,134	100
Mbinga	90,889	31	160,895	55	43,127	15	294,911	100
Songea Urban	10,688	36	15,502	53	3,157	11	29,347	100
Namtumbo	39,758	31	64,470	49	26,065	20	130,292	100
Total	227,703	30	385,184	50	152,269	20	765,156	100

3.7 HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members by Main Activity and District,

District	Main Activity									
	Farming		Herding		Livestock Pastoralist		Fishing		Parastatal	
	Number	%	Number	%	Number	%	Number	%	Number	%
Tunduru	111,709	59	0	0	0	0	0	0	1,215	1
Songea Rural	68,463	56	1,213	1	0	0	0	0	905	1
Mbinga	167,881	57	1,343	0	259	0	3,480	1	2,624	1
Songea Urban	13,452	46	80	0	0	0	0	0	490	2
Namtumbo	76,107	58	217	0	0	0	69	0	718	1
Total	437,613	57	2,854	0	259	0	3,550	0	5,953	1

cont... Number of Agricultural Household Members By Main Activity and District, 2002/03 Agricultural Year

District	Main Activity									
	Private - NGO / Mission / etc		Self Employed (Non Farming) with Employees		Self Employed (Non Farming) without Employees		Unpaid Family Helper (Non Agriculture)		Not Working & Available	
	Number	%	Number	%	Number	%	Number	%	Number	%
Tunduru	1,237	1	660	0	1,328	1	1,739	1	422	0
Songea Rural	1,367	1	1,218	1	994	1	454	0	304	0
Mbinga	2,713	1	129	0	1,799	1	500	0	626	0
Songea Urban	648	2	627	2	1,027	4	216	1	109	0
Namtumbo	644	0	575	0	72	0	285	0	141	0
Total	6,609	1	3,207	0	5,221	1	3,195	0	1,603	0

cont... Number of Agricultural Household Members By Main Activity and District, 2002/03 Agricultural Year

District	Main Activity											
	Not Working & Unavailable		Housemaker / Housewife		Student		Unable to work / Too Old / Retired / Sick / Disabled		Other		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Tunduru	315	0	703	0	46,197	25	21,921	12	1,024	1	188,472	100
Songea Rural	228	0	230	0	36,642	30	10,042	8	73	0	122,134	100
Mbinga	388	0	1,543	1	85,860	29	25,248	9	518	0	294,911	100
Songea Urban	27	0	511	2	10,121	34	1,956	7	82	0	29,347	100
Namtumbo	72	0	284	0	37,392	29	13,357	10	358	0	130,292	100
Total	1,031	0	3,270	0	216,213	28	72,523	9	2,055	0	765,156	100

3.8 HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members By Level of involvement in Farming Activity and District, 2002/03 Agricultural Year

District	Involvement in Farming									
	Works Full-time on Farm		Works Part-time on Farm		Rarely Works on Farm		Never Works on Farm		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Tunduru	106,478	56	4,442	2	51,740	27	25,812	14	188,472	100
Songea Rural	68,155	56	4,258	3	37,943	31	11,777	10	122,134	100
Mbinga	168,834	57	4,769	2	84,808	29	36,500	12	294,911	100
Songea Urban	13,312	45	2,248	8	11,854	40	1,933	7	29,347	100
Namtumbo	74,736	57	1,646	1	40,593	31	13,316	10	130,292	100
Total	431,515	56	17,363	2	226,938	30	89,339	12	765,156	100

3.9 HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year

District	Education Level									
	Under Standard One		Standard One		Standard Two		Standard Three		Standard Four	
	Number	%	Number	%	Number	%	Number	%	Number	%
Tunduru	106	0	0	0	1,250	2	1,879	2	7,452	9
Songea Rural	306	0	378	1	989	2	2,198	3	12,839	20
Mbinga	503	0	1,011	1	4,146	3	2,606	2	23,293	14
Songea Urban	27	0	55	0	355	2	300	2	2,070	13
Namtumbo	217	0	359	1	648	1	1,078	2	7,831	12
Total	1,159	0	1,803	0	7,388	2	8,061	2	53,485	14

cont... HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year

District	Education Level									
	Standard Five		Standard Six		Standard Seven		Standard Eight		Training After Primary Education	
	Number	%	Number	%	Number	%	Number	%	Number	%
Tunduru	2,008	3	2,583	3	59,324	75	213	0	103	0
Songea Rural	1,130	2	832	1	43,151	66	760	1	669	1
Mbinga	2,050	1	1,670	1	114,611	71	1,580	1	503	0
Songea Urban	82	1	270	2	11,061	71	356	2	107	1
Namtumbo	864	1	1,369	2	48,363	75	355	1	363	1
Total	6,134	2	6,725	2	276,511	72	3,264	1	1,745	0

cont... HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year

District	Education Level									
	Pre-Form One		Form One		Form Two		Form Three		Form Four	
	Number	%	Number	%	Number	%	Number	%	Number	%
Tunduru	0	0	0	0	105	0	105	0	924	1
Songea Rural	0	0	76	0	226	0	0	0	1,211	2
Mbinga	781	0	512	0	1,410	1	386	0	4,360	3
Songea Urban	0	0	55	0	55	0	81	1	408	3
Namtumbo	72	0	215	0	357	1	362	1	1,005	2
Total	853	0	858	0	2,154	1	934	0	7,908	2

cont... HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year

District	Education Level									
	Form Five		Form Six		Training After Secondary Education		Adult Education		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Tunduru	0	0	107	0	621	1	2,311	3	79,091	100
Songea Rural	0	0	0	0	77	0	384	1	65,226	100
Mbinga	132	0	237	0	840	1	264	0	160,895	100
Songea Urban	0	0	82	1	27	0	109	1	15,502	100
Namtumbo	0	0	69	0	217	0	724	1	64,470	100
Total	132	0	496	0	1,783	0	3,791	1	385,184	100

3.10 HOUSEHOLDS DEMOGRAPHYS: Number of Agricultural Households and Average Household Size By Sex of the Head of Household and District, 2002/03 Agricultural Year

District	Male			Female			Total		Average Household Size
	Number	%	Average Household Size	Number	%	Average Household Size	Number	%	
Tunduru	40,976	87	5	5,922	13	4	46,898	100	5
Songea Rural	25,232	82	5	5,540	18	4	30,772	100	5
Mbinga	65,745	85	5	11,701	15	4	77,447	100	4
Songea Urban	5,852	84	5	1,090	16	4	6,943	100	5
Namtumbo	26,542	91	5	2,573	9	4	29,115	100	5
Total	164,347	86	5	26,827	14	4	191,175	100	5

3.11 HOUSEHOLD DEMOGRAPHYS: Number of Agricultural Households By Number of Household Members with Off-farm Income Generating Activities and District, 2002/03 Agricultural Year

District	Number of household members with Off farm income							
	One		Two		More than Two		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Tunduru	17,359	67	6,511	25	2,164	8	26,034	100
Songea Rural	13,452	59	7,221	32	2,135	9	22,808	100
Mbinga	30,267	57	18,378	35	4,452	8	53,097	100
Songea Urban	3,209	56	1,742	31	740	13	5,691	100
Namtumbo	9,853	54	6,388	35	2,074	11	18,315	100
Total	74,141	59	40,239	32	11,565	9	125,945	100

3.12 HOUSEHOLDS DEMOGRAPHYS: Number of Heads of Agricultural Households By Maximum Education Level Attained and District, 2002/03 Agricultural Year

District	Maximum Education Level Attained						
	No Education	Primary Education	Post Primary Education	Secondary Education	Post Secondary Education	Adult Education	Total
Tunduru	12,755	31,110	0	729	311	1,993	46,898
Songea Rural	4,024	24,943	519	902	77	307	30,772
Mbinga	8,676	62,636	503	4,638	730	264	77,447
Songea Urban	706	5,666	27	435	27	81	6,943
Namtumbo	4,367	22,873	218	1,151	145	362	29,115
Total	30,529	147,227	1,267	7,854	1,290	3,007	191,175

3.13 HOUSEHOLDS DEMOGRAPHYS: Mean, Median, Mode of Age of Head of Agricultural Household and District

District	Male			Female			Total		
	Mean	Median	Mode	Mean	Median	Mode	Mean	Median	Mode
Tunduru	43	40	30	44	42	45	43.4	40	30
Songea Rural	44	41	30	48	44	40	45.0	42	30
Mbinga	40	37	28	49	49	50	41.2	38	28
Songea Urban	44	42	35	48	48	50	44.9	43	35
Namtumbo	42	39	30	44	41	35	42.6	40	30
Total	42	39	30	47	45	40	42.7	40	30

3.14 Time Series of Male and Female Headed Households

Type of Holding	NCSA 1994/95	EAS 1995/96	EAS 1996/97	IAS 1997/98	DIAS 1998/99	NCSA 2002/03
Male Heads	147,966	153,884	159,880	193,242	189,665	164,347
Female Heads	14,109	22,335	22,286	23,024	22,692	26,827
Total	162,075	176,219	182,166	216,266	212,357	191,175
Male headed (Percentage)	91	87	88	89	89	86
Female headed (Percentage)	9	13	12	11	11	14
Total	100	100	100	100	100	100

3.15 Literacy Rate of Heads of Households by Sex and District

District	Literacy								
	Know			Don't know			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Tunduru	31,049	3,103	34,151	9,927	2,820	12,746	40,976	5,922	46,898
Songea Rural	22,267	3,951	26,218	2,965	1,589	4,554	25,232	5,540	30,772
Mbinga	58,988	8,887	67,875	6,758	2,814	9,572	65,745	11,701	77,447
Songea Urban	5,501	709	6,210	352	381	733	5,852	1,090	6,943
Namtumbo	22,666	1,721	24,388	3,876	852	4,728	26,542	2,573	29,115
Total	140,471	18,371	158,841	23,877	8,457	32,333	164,347	26,827	191,175

LAND ACCESS/OWNERSHIP

4.1 LAND ACCESS/OWNERSHIP: Number of Farming Households by Type of Land Ownership/Tenure and District for the 2002/03 Agricultural Year

District	Land Access														Total Number of Households
	Leased/Certificate of Ownership		Owned under Customary Law		Bought		Rented		Borrowed		Households with Area Shared Cropped		Households with Area under Other Forms of Tenure		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Tunduru	1,583	3	43,448	76	6,799	12	793	1	2,881	5	311	1	1,136	2	57,050
Songea Rural	4,028	10	27,214	69	2,719	7	1,208	3	2,350	6	230	1	1,526	4	39,372
Mbinga	2,376	2	68,928	64	14,257	13	7,009	6	8,513	8	384	0	6,341	6	107,903
Songea Urban	567	5	5,751	53	1,498	14	540	5	867	8	409	4	1,178	11	10,898
Namtumbo	217	1	27,171	85	1,289	4	288	1	1,580	5	289	1	1,151	4	32,080
Total	8,770	4	172,512	70	26,563	11	9,839	4	16,190	7	1,624	1	11,332	5	246,926

4.2 LAND ACCESS/OWNERSHIP: Area of Land (ha) by Ownership/Tenure (Hectare) and District for the 2002/03 Agricultural Year

District	Land Access/ Ownership (Hectare)								Total
	Area Leased/Certificate of Ownership	Area Owned Under Customary Law	Area Bought	Area Rented	Area Borrowed	Area Shared Cropped	Area under Other Forms of Tenure		
Tunduru	6,850	180,902	16,512	1,526	3,320	452	1,182	210,743	
Songea Rural	12,201	109,889	5,974	1,183	1,704	93	968	132,013	
Mbinga	9,375	220,227	28,460	4,495	6,078	129	13,839	282,603	
Songea Urban	728	13,191	1,997	381	677	210	835	18,019	
Namtumbo	702	140,892	4,088	468	2,629	387	6,726	155,891	
Total	29,855	665,101	57,032	8,052	14,408	1,270	23,550	799,269	
%	4	83	7	1	2	0	3	100	

LAND USE

5.1 LAND USE: Number of Agricultural Households By Type of Land Use and District for the 2002/03 Agricultural Year

Districts	Type of Land Use												Total Number of Households
	Households with Temporary Mono Crops	Households with Temporary Mixed Crops	Households with Permanent Mono Crops	Households with Permanent Mixed Crops	Households with Permanent / Annual Mix	Households with Pasture	Households with Fallow	Households with Natural Bush	Households with Planted Trees	Households Rented to Others	Households Unusable	Households of Uncultivated Usable Land	
Tunduru	40,827	9,497	29,504	6,632	29,622	316	8,616	3,748	103	413	735	14,390	144,403
Songea Rural	27,886	10,123	16,167	3,486	11,674	1,520	13,483	10,167	9,887	2,105	2,735	11,780	121,013
Mbinga	66,798	20,913	51,788	33,488	6,657	7,438	31,030	14,906	25,154	5,536	8,787	25,251	297,744
Songea Urban	5,748	3,718	3,019	1,614	2,805	190	355	272	2,865	217	299	3,267	24,368
Namtumbo	27,764	10,419	18,865	3,089	6,077	999	11,350	10,491	2,357	1,663	3,669	17,477	114,220
Total	169,022	54,671	119,342	48,308	56,836	10,463	64,835	39,584	40,366	9,933	16,224	72,165	701,748

5.2 LAND USE: Area of Land (Ha) by type of Land Use and District for the 2002/03 Agricultural Year

District	Land use area												Total
	Area under Temporary Mono Crops	Area under Temporary Mixed Crops	Area under Permanent Mono Crops	Area under Permanent Mixed Crops	Area under Permanent / Annual Mix	Area under Pasture	Area under Fallow	Area under Natural Bush		Area Rented to Others	Area Unusable	Area of Uncultivated Usable Land	
Tunduru	35,322	10,806	60,306	10,426	42,189	299	10,944	10,999	125	357	1,296	27,636	210,704
Songea Rural	38,149	7,409	8,107	1,901	9,735	1,891	15,741	24,025	2,108	2,544	3,344	17,060	132,013
Mbinga	78,902	14,927	40,236	24,198	6,631	5,494	30,558	21,625	6,472	5,002	14,919	33,637	282,603
Songea Urban	5,463	2,458	1,405	595	1,992	145	277	191	1,023	368	173	3,930	18,019
Namtumbo	47,161	10,871	10,431	2,329	5,499	1,399	14,368	22,682	1,264	2,495	4,565	32,827	155,891
Total	204,996	46,471	120,484	39,451	66,045	9,228	71,887	79,522	10,991	10,766	24,297	115,091	799,230
%	26	6	15	5	8	1	9	10	1	1	3	14	100

5.3: Number of Agricultural Households by Whether All Land Available to the Household Was Used and District, 2002/03 Agricultural Year

District	Was all Land Available to the Hh Used During 2002/03?					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Tunduru	22,329	48	24,569	52	46,898	100
Songea Rural	4,790	16	25,982	84	30,772	100
Mbinga	24,824	32	52,491	68	77,315	100
Songea Urban	3,051	44	3,891	56	6,943	100
Namtumbo	4,447	15	24,668	85	29,115	100
Total	59,442	31	131,601	69	191,043	100

5.4: Number of Agricultural Households by Whether they Consider Having Sufficient Land for the Household and District, 2002/03 Agricultural Year

District	Do you Consider that you have sufficient land for the Hh?					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Tunduru	39,708	85	7,190	15	46,898	100
Songea Rural	24,176	79	6,596	21	30,772	100
Mbinga	52,305	68	25,010	32	77,315	100
Songea Urban	4,482	65	2,461	35	6,943	100
Namtumbo	23,749	82	5,366	18	29,115	100
Total	144,421	76	46,622	24	191,043	100

5.5: Number of Agricultural Households by whether Female Members of the Household Own or Have Customary Right to Land and District, 2002/03 Agricultural Year

District	Do any Female Members of the Hh own or have customary right					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Tunduru	9,341	20	37,557	80	46,898	100
Songea Rural	5,306	17	25,466	83	30,772	100
Mbinga	10,647	14	66,668	86	77,315	100
Songea Urban	1,037	15	5,906	85	6,943	100
Namtumbo	2,862	10	26,253	90	29,115	100
Total	29,192	15	161,851	85	191,043	100

**TOTAL ANNUAL CROP & VEGETABLES PRODUCTION
WET & DRY SEASONS**

7.1 & 7.2a TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted (ha) by Season and District.

District	Dry Season		Wet Season		Total Area Planted (Hectare)	% Area planted in Dry Season
	Number of household	Planted area (hectare)	Number of household	Planted Area (hectare)		
Tunduru	0	0	46,589	84,544	84,544	0.00
Songea Rural	0	0	30,696	61,969	61,969	0.00
Mbinga	0	0	73,950	130,386	130,386	0.00
Songea Urban	0	0	6,943	10,920	10,920	0.00
Namtumbo	72	110	28,970	70,275	70,385	0.16
Total	72	110	187,149	358,093	358,203	0.03

7.1 & 7.2b TOTAL ANNUAL CROPS AND VEGETABLE PRODUCTION: Number of Crop Growing Households Planting Crops by Season and District.

District	Dry Season		Wet Season		Total Number of Crop Growing Households
	Number of households Growing Crops	Number of households NOT Growing Crops	Number of households Growing Crops	Number of households NOT Growing Crops	
Tunduru	0	46,589	46,589	0	46,589
Songea Rural	0	30,696	30,696	0	30,696
Mbinga	0	73,950	73,950	0	73,950
Songea Urban	0	6,943	6,943	0	6,943
Namtumbo	72	28,970	28,970	72	29,043
Total	72	187,149	187,149	72	187,221

7.1 & 7.2d TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Agriculture Households by Area Planted (ha) and crop for the Agriculture Year 2002/03 - Wet and Dry Seasons, Ruvuma Region

Crop	Dry Season		Wet Season		Total Area Planted Dry & Wet Season	% Area Planted in Dry Season
	Number of Households	Planted area (ha)	Number of Households	Planted area (ha)		
CEREALS	145	66	308,200	194,145	194,211	
Maize	72	37	178,837	139,505	139,541	0
Paddy	72	29	81,184	38,178	38,207	0
Sorghum	0	0	7,711	2,079	2,079	0
Bulrush Millet	0	0	313	38	38	0
Finger Millet	0	0	30,738	10,287	10,287	0
Wheat	0	0	9,309	4,036	4,036	0
Barley	0	0	107	22	22	0
ROOTS & TUBERS	0	0	179,886	94,522	94,522	0
Cassava	0	0	137,409	87,522	87,522	0
Sweet Potatoes	0	0	35,326	6,316	6,316	0
Irish Potatoes	0	0	1,618	143	143	0
Yams	0	0	952	96	96	0
Cocoyam	0	0	4,582	446	446	0
PULSES	0	0	117,582	39,697	39,697	0
Mung Beans	0	0	145	73	73	0
Beans	0	0	86,699	34,237	34,237	0
Cowpeas	0	0	12,806	2,438	2,438	0
Green Gram	0	0	1,027	138	138	0
Pigeon Peas	0	0	145	51	51	0
Chich Peas	0	0	0	0	0	0
Bambaranuts	0	0	16,049	2,570	2,570	0
Field Peas	0	0	711	189	189	0
OIL SEEDS & OIL NUTS	72	29	66,052	17,435	17,464	0.2
Sunflower	0	0	3,537	796	796	0.0
Simsim	0	0	21,421	6,279	6,279	0.0
Groundnuts	72	29	39,839	9,532	9,561	0.3
Soya Beans	0	0	1,255	828	828	0.0
Castor Seed	0	0	0	0	0	0.0
FRUITS & VEGETABLES	145	15	42,583	5,125	5,140	0
Okra	0	0	27	3	3	0
Radish	0	0	73	7	7	0
Turmeric	0	0	0	0	0	0
Bitter Aubergine	0	0	0	0	0	0
Garlic	0	0	0	0	0	0
Onions	0	0	4,075	585	585	0
Ginger	0	0	0	0	0	0
Cabbage	72	7	10,900	1,209	1,217	1
Tomatoes	0	0	13,606	1,927	1,927	0
Spinnach	0	0	4,367	465	465	0
Carrot	0	0	130	72	72	0
Chillies	0	0	241	27	27	0
Amaranths	72	7	3,950	349	356	2
Pumpkins	0	0	4,866	448	448	0
Cucumber	0	0	221	22	22	0
Egg Plant	0	0	127	12	12	0
Water Mellon	0	0	0	0	0	0
Cauliflower	0	0	0	0	0	0
Total		110		358,093	358,203	0

7.1 & 7.2e TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (ha) By Means of Soil Preparation and District Wet & Dry Season, Ruvuma

District	Soil Preparation							
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Tunduru	203	173	829	1,405	45,558	60,541	46,589	62,119
Songea Rural	460	435	1,438	2,095	28,798	48,170	30,696	50,700
Mbinga	2,840	3,408	3,471	4,907	67,639	82,466	73,950	90,781
Songea Urban	357	292	162	134	6,423	8,326	6,943	8,752
o	72	217	1,003	2,268	27,968	56,441	29,042	58,927
Total	3,931	4,525	6,903	10,809	176,387	255,944	187,221	271,279
%		2		4		94		100

7.1 & 7.2f TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fertilizer Use and District for the 2002/03 Agriculture Year - Wet & Dry Season, Ruvuma

District	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area
Tunduru	604	1,163	318	649	3,128	5,457	42,742	77,275	46,792	84,544
Songea Rural	2,723	5,952	460	829	4,836	9,312	22,677	45,875	30,696	61,969
Mbinga	8,451	17,981	641	1,561	7,714	12,325	60,509	98,519	77,315	130,386
Songea Urban	1,010	2,098	109	159	2,419	3,857	3,404	4,806	6,943	10,920
o	1,150	2,277	143	394	5,612	12,450	22,282	55,265	29,187	70,385
Total	13,938	29,470	1,671	3,591	23,710	43,402	151,614	281,740	190,933	358,203

7.1 & 7.2g TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Irrigation Use and District during Wet Season, 2002/03 Agriculture Year

District	Irrigation Use						% of Area Planted Under Irrigation
	Households Using		Households not Using		Total		
	Number of Household	Planted Area (Ha)	Number of Household	Planted Area (Ha)	Number of Household	Planted Area (Ha)	
Tunduru	30,899	60,879	15,893	23,665	46,792	84,544	72.01
Songea Rural	20,996	44,231	9,700	17,738	30,696	61,969	71.38
Mbinga	43,932	73,755	33,383	56,630	77,315	130,386	56.57
Songea Urban	5,154	8,774	1,788	2,146	6,943	10,920	80.35
Namtumbo	18,971	49,669	10,145	20,606	29,115	70,275	70.68
Total	119,953	237,308	70,909	120,785	190,861	358,093	66.27

7.1 & 7.2h TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Insecticide Use and District for the 2002/03 Agriculture Year - Wet & Dry Season.

District	Insecticide Use						% of Planted Area Using Insecticides
	Households Using Insecticides		Households Not Using Insecticides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Tunduru	3,526	8,397	43,267	76,147	46,792	84,544	9.93
Songea Rural	4,462	10,713	26,234	51,256	30,696	61,969	17.29
Mbinga	22,527	43,482	54,788	86,903	77,315	130,386	33.35
Songea Urban	2,486	5,236	4,457	5,684	6,943	10,920	47.95
Namtumbo	4,254	11,130	24,934	59,255	29,187	70,385	15.81
Total	37,254	78,958	153,679	279,245	190,933	358,203	22.04

7.1 & 7.2i TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Herbicide Use and District for the 2002/03 Agriculture Year - Wet & Dry Season.

District	Herbicide Use						% of Planted Area Using Herbicides
	Households Using Herbicide		Households Not Using Herbicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Tunduru	636	2,244	46,156	82,300	46,792	84,544	2.65
Songea Rural	76	170	30,620	61,799	30,696	61,969	0.27
Mbinga	1,531	3,264	75,784	127,121	77,315	130,386	2.50
Songea Urban	82	195	6,860	10,725	6,943	10,920	1.78
Namtumbo	145	248	29,042	70,137	29,187	70,385	0.35
Total	2,471	6,121	188,462	352,082	190,933	358,203	1.71
%	1.3	1.7	98.7	98.3	100	100	

7.1 & 7.2j TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fungicides Use and District for the 2002/03 Agriculture Year - Wet & Dry Season.

District	Fungicide Use						% of Planted Area Using Fungicides
	Households Using Fungicide		Households Not Using Fungicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Tunduru	2,273	4,588	44,519	79,956	46,792	84,544	5.43
Songea Rural	909	2,335	29,787	59,634	30,696	61,969	3.77
Mbinga	3,377	6,915	73,937	123,470	77,315	130,386	5.30
Songea Urban	411	904	6,532	10,015	6,943	10,920	8.28
Namtumbo	939	2,689	28,248	67,697	29,187	70,385	3.82
Total	7,910	17,431	183,024	340,772	190,933	358,203	4.87

7.1 & 7.2k TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Improved Seed Use and District for the 2002/03 Agriculture Year - Wet & Dry Season.

District	Improved Seed Use						% of Planted Area Using Improved Seeds
	Households Using Improved Seed		Households Not Using Improved Seed		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Tunduru	1,973	3,088	44,616	59,141	46,589	62,119	4.97
Songea Rural	5,254	11,165	25,442	39,535	30,696	50,700	22.02
Mbinga	7,487	11,609	66,463	79,172	73,950	90,781	12.79
Songea Urban	1,394	1,993	5,549	6,760	6,943	8,752	22.77
Namtumbo	2,809	7,354	26,305	51,683	29,114	59,037	12.46
Total	18,917	35,208	168,376	236,181	187,293	271,388	12.97

**ANNUAL CROP & VEGETABLES PRODUCTION
DRY SEASON**

7.1a ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Households and Planted Area by Means Used for Soil Preparation and District - DRY SEASON, Ruvuma Region.

District	Soil Preparation							
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Tunduru	0	0	0	0	0	0	0	0
Songea Rural	0	0	0	0	0	0	0	0
Mbinga	0	0	0	0	0	0	0	0
Songea Urban	0	0	0	0	0	0	0	0
Namtumbo	0	0	0	0	72	110	72	110
Total	0	0	0	0	72	110	72	110
%	0	0	0	0	100	100	100	100

7.1b ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Crop Growing Households and Planted Area by Fertilizer Use and District during 2002/03 Agriculture Year - DRY SEASON, Ruvuma Region

District	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Tunduru	0	0	0	0	0	0	0	0	0	0
Songea Rural	0	0	0	0	0	0	0	0	0	0
Mbinga	0	0	0	0	0	0	0	0	0	0
Songea Urban	0	0	0	0	0	0	0	0	0	0
Namtumbo	0	0	0	0	72	110	0	0	72	110
Total	0	0	0	0	72	110	0	0	72	110
%	0	0	0	0	100	100	0	0	100	100

7.1c ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Crop Growing Households and Planted Area by Irrigation Use and District during Dry Season, 2002/03 Agriculture Year, Ruvuma Region

District	Irrigation Use						% of planted area under irrigation in dry season
	Households Using Irrigation		Households Not Using Irrigation		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Tunduru	0	0	0	0	0	0	0
Songea Rural	0	0	0	0	0	0	0
Mbinga	0	0	0	0	0	0	0
Songea Urban	0	0	0	0	0	0	0
Namtumbo	0	0	72	110	72	110	0
Total	0	0	72	110	72	110	0
%	0	0	100	100	100	100	

7.1d ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Insecticide Use and District for the 2002/03 Agriculture Year - Dry Season.

	Insecticide Use						% of Planted Area Using Insecticides
	Household Using Insecticides		Households Not Using Insecticides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Tunduru	0	0	0	0	0	0	0
Songea Rural	0	0	0	0	0	0	0
Mbinga	0	0	0	0	0	0	0
Songea Urban	0	0	0	0	0	0	0
Namtumbo	0	0	72	110	72	110	0
Total	0	0	72	110	72	110	0

7.1e ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Herbicides Use and District for the 2002/03 Agriculture Year - Dry Season.

	Herbicide Use						% of Planted Area Using Herbicides
	Household Using Herbicides		Households Not Using Herbicides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Tunduru	0	0	0	0	0	0	0
Songea Rural	0	0	0	0	0	0	0
Mbinga	0	0	0	0	0	0	0
Songea Urban	0	0	0	0	0	0	0
Namtumbo	0	0	72	110	72	110	0
Total			72	110	72	110	0

7.1f ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fungicide Use and District for the 2002/03 Agriculture Year - Dry Season.

	Fungicide Use						% of Planted Area Using Fungicides
	Household Using Fungicides		Households Not Using Fungicides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Tunduru	0	0	0	0	0	0	0
Songea Rural	0	0	0	0	0	0	0
Mbinga	0	0	0	0	0	0	0
Songea Urban	0	0	0	0	0	0	0
Namtumbo	0	0	72	110	72	110	0
Total	0	0	72	110	72	110	0

7.1g ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Improved Seed Use and District During 2002/03 Crop Year - DRY SEASON

District	Improved Seed Use						% of Planted Area Using Improved Seed
	Households Using Improved Seed		Households Not Using Improved Seed		Total		
	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area	
Tunduru	0	0	0	0	0	0	0
Songea Rural	0	0	0	0	0	0	0
Mbinga	0	0	0	0	0	0	0
Songea Urban	0	0	0	0	0	0	0
Namtumbo	0		72	110	72	110	0
Total	0		72	110	72	110	0
%	0	0	100	100	100	100	0

**ANNUAL CROP & VEGETABLES PRODUCTION
WET SEASON**

7.2a ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Households and Planted Area by Means Used for Soil Preparation and District - WET SEASON, Ruvuma Region.

District	Soil Preparation							
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Tunduru	203	173	829	1,405	45,558	60,541	46,589	62,119
Songea Rural	460	435	1,438	2,095	28,798	48,170	30,696	50,700
Mbinga	2,840	3,408	3,471	4,907	67,639	82,466	73,950	90,781
Songea Urban	357	292	162	134	6,423	8,326	6,943	8,752
Namtumbo	72	217	1,003	2,268	27,896	56,331	28,970	58,817
Total	3,931	4,525	6,903	10,809	176,315	255,834	187,149	271,169
%	2	2	4	4	94	94	100	100

7.2b ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Crop Growing Households and Planted Area by Fertilizer Use and District during 2002/03 Agriculture Year - WET SEASON, Ruvuma Region

District	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Tunduru	604	1,163	318	649	3,128	5,457	42,742	77,275	46,792	84,544
Songea Rural	2,723	5,952	460	829	4,836	9,312	22,677	45,875	30,696	61,969
Mbinga	8,451	17,981	641	1,561	7,714	12,325	60,509	98,519	77,315	130,386
Songea Urban	1,010	2,098	109	159	2,419	3,857	3,404	4,806	6,943	10,920
Namtumbo	1,150	2,277	143	394	5,540	12,340	22,282	55,265	29,115	70,275
Total	13,938	29,470	1,671	3,591	23,638	43,292	151,614	281,740	190,861	358,093

7.2c ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Crop Growing Households and Planted Area by Irrigation Use and District during Wet Season, 2002/03 Agriculture Year, Ruvuma Region

District	Irrigation Use						% of planted area under irrigation in dry season
	Households Using Irrigation		Households Not Using Irrigation		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Tunduru	30,899	60,879	15,893	23,665	46,792	84,544	72
Songea Rural	20,996	44,231	9,700	17,738	30,696	61,969	71
Mbinga	43,932	73,755	33,383	56,630	77,315	130,386	57
Songea Urban	5,154	8,774	1,788	2,146	6,943	10,920	80
Namtumbo	18,971	49,669	10,145	20,606	29,115	70,275	71
Total	119,953	237,308	70,909	120,785	190,861	358,093	66
%	63	66	37	34	100	100	66

7.2d ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Insecticide Use and District for the 2002/03 Agriculture Year - Wet Season.

District	Insecticide Use						% of Planted Area Using Insecticides
	Households Using Insecticides		Households Not Using Insecticides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Tunduru	3,526	8,397	43,267	76,147	46,792	84,544	10
Songea Rural	4,462	10,713	26,234	51,256	30,696	61,969	17
Mbinga	22,527	43,482	54,788	86,903	77,315	130,386	33
Songea Urban	2,486	5,236	4,457	5,684	6,943	10,920	48
Namtumbo	4,254	11,130	24,862	59,145	29,115	70,275	16
Total	37,254	78,958	153,607	279,135	190,861	358,093	22

7.2e ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Herbicide Use and District for the 2002/03 Agriculture Year - Wet Season.

District	Herbicide Use						% of Planted Area Using Herbicides
	Households Using Herbicide		Households Not Using Herbicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Tunduru	636	2,244	46,156	82,300	46,792	84,544	2.65
Songea Rural	76	170	30,620	61,799	30,696	61,969	0.27
Mbinga	1,531	3,264	75,784	127,121	77,315	130,386	2.50
Songea Urban	82	195	6,860	10,725	6,943	10,920	1.78
Namtumbo	145	248	28,970	70,027	29,115	70,275	0.35
Total	2,471	6,121	188,390	351,972	190,861	358,093	1.71
%	1.3	1.7	98.7	98.3	100	100	

7.2f ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fungicide Use and District for the 2002/03 Agriculture Year - WET SEASON

District	Fungicide Use						% of Planted Area Using Fungicides
	Households Using Fungicide		Households Not Using Fungicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Tunduru	2,273	4,588	44,519	79,956	46,792	84,544	5
Songea Rural	909	2,335	29,787	59,634	30,696	61,969	4
Mbinga	3,377	6,915	73,937	123,470	77,315	130,386	5
Songea Urban	411	904	6,532	10,015	6,943	10,920	8
Namtumbo	939	2,689	28,176	67,587	29,115	70,275	4
Total	7,910	17,431	182,952	340,662	190,861	358,093	5

7.2g ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Improved Seed Use and District During 2002/03 Crop Year - WET SEASON

District	Improved Seed Use						% of planted area under irrigation in dry season
	Households Using Improved Seed		Households Not Using Improved Seed		Total		
	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area	
Tunduru	1,973	3,088	44,616	59,141	46,589	62,119	5
Songea Rural	5,254	11,165	25,442	39,535	30,696	50,700	22
Mbinga	7,487	11,609	66,463	79,172	73,950	90,781	13
Songea Urban	1,394	1,993	5,549	6,760	6,943	8,752	23
Namtumbo	2,809	7,354	26,233	51,573	29,042	58,927	12
Total	18,917	35,208	168,304	236,071	187,221	271,278	13
%	10	13	90	87	100	100	

Table 7.2.17: Number of Agricultural Households, Area Planted (ha) and Quantity of Simsim Harvested (tons) by Season and District;2002/03 Agricultural Year

Simsim											
District	Dry Season				Wet Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Tunduru	0	0	0	0	2,619	747	264	0.354	747	264	0.354
Songea Rural	0	0	0	0	6,317	1,522	524	0.345	1,522	524	0.345
Mbinga	0	0	0	0	1,512	472	141	0.299	472	141	0.299
Songea Urban	0	0	0	0	82	11	5	0.418	11	5	0.418
Namtumbo	0	0	0	0	10,891	3,527	1,442	0.409	3,527	1,442	0.409
Total	0	0	0	0	21,421	6,279	2,376	0.378	6,279	2,376	0.378

Table 7.2.18: Number of Agricultural Households, Area Planted (ha) and Quantity of Soya beans Harvested (tons) by Season and District;2002/03 Agricultural Year

Soya beans											
District	Dry Season				Wet Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Tunduru	0	0	0	0	0	0	0	0.000	0	0	0.000
Songea Rural	0	0	0	0	989	363	184	0.508	363	184	0.508
Mbinga	0	0	0	0	122	407	15	0.038	407	15	0.038
Songea Urban	0	0	0	0	0	0	0	0.000	0	0	0.000
Namtumbo	0	0	0	0	144	58	46	0.786	58	46	0.786
Total	0	0	0	0	1,255	828	246	0.297	828	246	0.297

Table 7.2.19: Number of Agricultural Households, Area Planted (ha) and Quantity of Cabbage Harvested (tons) by Season and District;2002/03 Agricultural Year

Cabbage											
District	Dry Season				Wet Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Tunduru	0	0	0	0	801	75	163	2.177	75	163	2.177
Songea Rural	0	0	0	0	2,883	248	476	1.920	248	476	1.920
Mbinga	0	0	0	0	3,059	432	1,381	3.197	432	1,381	3.197
Songea Urban	0	0	0	0	1,782	201	1,181	5.872	201	1,181	5.872
Namtumbo	72	7	11	0	2,375	253	907	3.580	261	918	3.521
Total	72	7	11	0	10,900	1,209	4,109	3.397	1,217	4,119	3.386

Table 7.2.20: Number of Agricultural Households, Area Planted (ha) and Quantity of Okra Harvested (tons) by Season and District;2002/03 Agricultural Year

Okra											
District	Dry Season				Wet Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Tunduru	0	0	0	0	0	0	0	0	0	0	0
Songea Rural	0	0	0	0	0	0	0	0	0	0	0
Mbinga	0	0	0	0	0	0	0	0	0	0	0
Songea Urban	0	0	0	0	27	3	45	16	3	45	16.134
Namtumbo	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	27	3	45	16	3	45	16.134

Table 7.2.21: Number of Agricultural Households, Area Planted (ha) and Quantity of Radish Harvested (tons) by Season and District;2002/03 Agricultural Year

Radish											
District	Dry Season				Wet Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Tunduru	0	0	0	0	0	0	0	0	0	0	0
Songea Rural	0	0	0	0	0	0	0	0	0	0	0
Mbinga	0	0	0	0	0	0	0	0	0	0	0
Songea Urban	0	0	0	0	0	0	0	0	0	0	0
Namtumbo	0	0	0	0	73	7	2	0.267	7	2	0.267
Total	0	0	0	0	73	7	2	0.267	7	2	0.267

Table 7.2.22: Number of Agricultural Households, Area Planted (ha) and Quantity of Tumeric Harvested (tons) by Season and District;2002/03 Agricultural Year

Tumeric											
District	Dry Season				Wet Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Tunduru	0	0	0	0	0	0	0	0	0	0	0
Songea Rural	0	0	0	0	0	0	0	0	0	0	0
Mbinga	0	0	0	0	0	0	0	0	0	0	0
Songea Urban	0	0	0	0	0	0	0	0	0	0	0
Namtumbo	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Table 7.2.23: Number of Agricultural Households, Area Planted (ha) and Quantity of Onions Harvested (tons) by Season and District;2002/03 Agricultural Year

Onions											
District	Dry Season				Wet Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Tunduru	0	0	0	0	821	135	291	2.154	135	291	2.154
Songea Rural	0	0	0	0	686	51	204	3.975	51	204	3.975
Mbinga	0	0	0	0	757	158	93	0.589	158	93	0.589
Songea Urban	0	0	0	0	438	54	107	1.977	54	107	1.977
Namtumbo	0	0	0	0	1,372	186	1,010	5.418	186	1,010	5.418
Total	0	0	0	0	4,075	585	1,704	2.915	585	1,704	2.915

Table 7.2.24: Number of Agricultural Households, Area Planted (ha) and Quantity of Tomatoes Harvested (tons) by Season and District;2002/03 Agricultural Year

Tomatoes											
District	Dry Season				Wet Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Tunduru	0	0	0	0	2,770	551	1,186	2.150	551	1,186	2.150
Songea Rural	0	0	0	0	1,898	202	681	3.376	202	681	3.376
Mbinga	0	0	0	0	4,799	632	2,207	3.491	632	2,207	3.491
Songea Urban	0	0	0	0	1,915	280	1,251	4.475	280	1,251	4.475
Namtumbo	0	0	0	0	2,224	262	2,004	7.652	262	2,004	7.652
Total	0	0	0	0	13,606	1,927	7,328	3.804	1,927	7,328	3.804

PERMANENT CROPS

7.3.1 PERMANENT CROPS: Production of Permanent Crops by Crop Type and District - Ruvuma

District/Crop		Area planted (ha)	Area Harvested (ha)	Quantity Harvested (tons)	Yield (Kgs/ha)
Tunduru	Sour Soup	252	252	21	82
	Pigeon Pea	4,756	1,223	442	361
	Star Fruit	20	20	18	889
	Coconut	668	177	407	2,305
	Cashewnut	71,527	51,947	8,827	170
	Coffee	25	16	3	200
	Sugarcane	373	152	4,467	29,423
	Banana	1,022	604	1,684	2,789
	Mango	401	132	824	6,233
	Pawpaw	0	0	5	0
	Orange	153	179	1,173	6,544
	Mandarine/Tangerine	20	20	8	395
	Guava	4	4	3	844
	Lime/Lemon	6	6	5	906
	Total	79,226	54,731	17,888	327
Songea Rural	Pigeon Pea	15	15	3	221
	Coconut	48	15	2	163
	Cashewnut	451	19	8	420
	Coffee	582	334	288	862
	Sugarcane	238	386	2,980	7,722
	Cinamon	12	12	3	278
	Jack Fruit	0	0	0	0
	Mpesheni	3	3	9	2,964
	Banana	1,622	844	5,267	6,238
	Avocado	0	0	50	0
	Mango	340	159	10,904	68,477
	Pawpaw	12	12	46	3,871
	Pineapple	13	5	13	2,683
	Orange	2,309	17	418	24,725
	Grape Fruit	0	0	0	0
	Mandarine/Tangerine	1	0	12	0
	Guava	8	3	46	15,016
	Plums	0	0	0	0
	Lime/Lemon	0	0	16	0
	Bilimbi	0	0	3	0
Total	5,655	1,825	20,070	10,994	
Mbinga	Black Pepper	0	0	0	0
	Malay Apple	0	0	2	0
	Palm Oil	73	72	159	2,198
	Coconut	186	20	120	6,125
	Cashewnut	917	268	36	133
	Sisal	104	104	71	679
	Coffee	29,312	25,652	12,087	471
	Kapok	0	0	0	0
	Sugarcane	479	159	5,186	32,621
	Jack Fruit	0	0	19	0
	Banana	1,096	942	22,721	24,130
	Avocado	249	43	95	2,229
	Mango	449	470	6,136	13,064
	Pawpaw	26	26	459	17,380
	Pineapple	82	56	214	3,818
	Orange	173	113	886	7,842
	Grape	0	0	0	0
	Mandarine/Tangerine	42	42	63	1,524
	Guava	0	1	184	356,784
	Plums	0	0	14	0
Apples	0	0	0	0	
Pears	0	0	12	0	
Pitches	0	0	278	0	

7.3.1 PERMANENT CROPS: Production of Permanent Crops by Crop Type and District - Ruvuma

District/Crop		Area planted (ha)	Area Harvested (ha)	Quantity Harvested (tons)	Yield (Kgs/ha)
	Lime/Lemon	0	0	4	0
	Bilimbi	6	0	0	0
	Total	33,195	27,966	48,746	1,743
Songea Urban	Pigeon Pea	0	0	0	0
	Star Fruit	3	3	10	3,444
	Cashewnut	1	0	0	0
	Coffee	42	28	10	343
	Sugarcane	82	46	456	9,965
	Cardamon	0	0	0	0
	Jack Fruit	0	0	0	0
	Banana	1,307	291	2,239	7,696
	Avocado	0	0	5	0
	Mango	82	93	2,891	30,952
	Pawpaw	12	12	83	6,799
	Pineapple	22	14	49	3,468
	Orange	19	75	143	1,910
	Grape	0	0	0	0
	Mandarine/Tangerine	0	0	39	0
	Guava	30	25	243	9,901
	Plums	0	0	1	0
	Apples	2	2	12	5,558
	Pears	0	0	0	0
	Lime/Lemon	0	0	78	0
Bilimbi	0	0	149	0	
Total	1,603	589	6,410	10,879	
Namtumbo	Pigeon Pea	388	391	69	176
	Palm Oil	59	29	2	62
	Coconut	87	47	137	2,935
	Cashewnut	1,228	473	407	861
	Wattle	7	0	0	0
	Sugarcane	310	440	2,173	4,937
	Mpesheni	29	0	0	0
	Banana	2,704	1,025	5,979	5,832
	Avocado	0	0	9	0
	Mango	87	247	3,445	13,955
	Pawpaw	82	64	92	1,426
	Pineapple	44	19	235	12,295
	Orange	172	118	798	6,770
	Grape Fruit	15	0	0	0
	Guava	20	3	222	75,547
	Total	5,233	2,857	13,567	4,749
Total	Sour Soup	252	252	21	82
	Black Pepper	0	0	0	0
	Pigeon Pea	5,159	1,630	515	316
	Malay Apple	0	0	2	0
	Star Fruit	23	23	27	1,202
	Palm Oil	132	102	161	1,583
	Coconut	989	258	666	2,585
	Cashewnut	74,124	52,708	9,278	176
	Sisal	104	104	71	679
	Coffee	29,961	26,030	12,388	476
	Wattle	7	0	0	0
	Kapok	0	0	0	0
	Sugarcane	1,482	1,183	15,262	12,906
	Cardamon	0	0	0	0
	Cinamon	12	12	3	278
	Jack Fruit	0	0	20	0
	Mpesheni	32	3	9	2,964
	Banana	7,751	3,706	37,890	10,225

7.3.1 PERMANENT CROPS: Production of Permanent Crops by Crop Type and District - Ruvuma

District/Crop	Area planted (ha)	Area Harvested (ha)	Quantity Harvested (tons)	Yield (Kgs/ha)
Avocado	249	43	159	3,718
Mango	1,359	1,101	24,200	21,973
Pawpaw	133	115	685	5,959
Pineapple	161	94	511	5,422
Orange	2,827	502	3,418	6,809
Grape Fruit	15	0	0	0
Grape	0	0	0	0
Mandarine/Tangerine	62	62	123	1,991
Guava	62	35	699	19,939
Plums	0	0	15	0
Apples	2	2	12	5,558
Pears	0	0	12	0
Pitches	0	0	278	0
Lime/Lemon	6	6	103	17,273
Bilimbi	6	0	152	0
Total	124,910	87,969	106,681	1,213

7.3.2 PERMANENT CROP: Area Planted by Crop Type - Ruvuma Region

Crop	Area Planted	%
Cashewnut	74,124	59.34
Coffee	29,961	23.99
Banana	7,751	6.21
Pigeon Pea	5,159	4.13
Orange	2,827	2.26
Sugarcane	1,482	1.19
Mango	1,359	1.09
Coconut	989	0.79
Sour Soup	252	0.20
Avocado	249	0.20
Pineapple	161	0.13
Pawpaw	133	0.11
Palm Oil	132	0.11
Sisal	104	0.08
Mandarine/Tangerine	62	0.05
Guava	62	0.05
Mpesheni	32	0.03
Star Fruit	23	0.02
Grape Fruit	15	0.01
Cinamon	12	0.01
Wattle	7	0.01
Lime/Lemon	6	0.00
Bilimbi	6	0.00
Apples	2	0.00
Pears	0	0.00
Black Pepper	0	0.00
Malay Apple	0	0.00
Kapok	0	0.00
Cardamon	0	0.00
Jack Fruit	0	0.00
Grape	0	0.00
Plums	0	0.00
Pitches	0	0.00
Total	124,910	100.00

7.3.3 PERMANENT CROPS: Area Planted with Cashewnut by District

Cashewnut					
District	Area Planted with Cashewnut	Total Area Planted (Ha)	% of Total Area Planted	Households with Cashewnut	Average Planted Area per Household
Tunduru	71,527	79,226	90.3	35,899	2.0
Songea Rural	451	5,655	8.0	527	0.9
Mbinga	917	33,195	2.8	2,050	0.4
Songea Urban	1	1,603	0.1	27	0.0
Namtumbo	1,228	5,233	23.5	1,482	0.8
Total	74,124	124,910	59.3	39,985	1.9

7.3.4 PERMANENT CROPS: Area planted with Coffee by District

Coffee					
District	Area Planted with Coffee	Total Area Planted (Ha)	% of Total Area Planted	Households with Coffee	Average Planted Area per Household
Tunduru	25	79,226	0.03	104	0.2
Songea Rural	582	5,655	10.29	1,227	0.5
Mbinga	29,312	33,195	88.30	39,846	0.7
Songea Urban	42	1,603	2.62	109	0.4
Namtumbo	0	5,233	0.00	0	0.0
Total	29,961	124,910	23.99	41,286	0.7

7.3.5 PERMANENT CROPS: Area planted with Banana by District

Banana					
District	Area Planted with Banana	Total Area Planted (Ha)	% of Total Area Planted	Households with Banana	Average Planted Area per Household
Tunduru	1022	79,226	1.3	1987	0.5
Songea Rural	1622	5,655	28.7	7151	0.2
Mbinga	1096	33,195	3.3	6565	0.2
Songea Urban	1307	1,603	81.6	1935	0.7
Namtumbo	2704	5,233	51.7	6782	0.4
Total	7751	124,910	6.2	24420	0.3

7.3.6 PERMANENT CROPS: Area Planted with Pigeon by District

Pigeon Peas					
District	Area Planted with Pigeon Peas	Total Area Planted (Ha)	% of Total Area Planted	Households with Pigeon Peas	Average Planted Area per Household
Tunduru	4,756	79,226	6.00	7,625	0.62
Songea Rural	15	5,655	0.27	77	0.19
Mbinga	0	33,195	0.00	0	0.00
Songea Urban	0	1,603	0.00	0	0.00
Namtumbo	388	5,233	7.41	1,368	0.28
Total	5,159	124,910	4.13	9,070	0.57

7.3.7 PERMANENT CROPS: Planted Area with Fertilizer by Fertilizer Type and Crop

Crop	Fertilizer Use				Total
	Mostly Farm Yard Manure	Mostly Compost	Mostly Inorganic Fertilizer	No Fertilizer Applied	
Sour Soup	0	0	0	252	252
Black Pepper	0	0	0	0	0
Pigeon Pea	0	0	80	5,011	5,092
Malay Apple	0	0	0	0	0
Star Fruit	23	0	0	0	23
Palm Oil	0	0	0	132	132
Coconut	0	0	30	959	989
Cashewnut	202	106	1,342	71,467	73,116
Sisal	104	0	0	0	104
Coffee	18,375	346	5,322	5,784	29,827
Wattle	0	0	0	7	7
Kapok	0	0	0	0	0
Sugarcane	157	31	152	1,142	1,482
Cardamon	0	0	0	0	0
Cinamon	0	0	0	12	12
Jack Fruit	0	0	0	0	0
Mpesheni	0	0	29	3	32
Banana	1,348	530	110	5,758	7,745
Avocado	43	0	0	207	249
Mango	3	8	131	1,172	1,314
Pawpaw	9	0	0	123	133
Pineapple	44	0	29	88	161
Orange	141	0	0	2,683	2,824
Grape Fruit	0	0	0	15	15
Grape	0	0	0	0	0
Mandarine/Tange	62	0	0	0	62
Guava	10	0	0	44	54
Plums	0	0	0	0	0
Apples	0	0	0	2	2
Pears	0	0	0	0	0
Pitches	0	0	0	0	0
Lime/Lemon	6	0	0	0	6
Bilimbi	0	0	0	6	6
Total	20,526	1,021	7,226	94,867	123,640

cont... Planted Area with Fertilizer by Fertilizer Type and Crop

Crop	Mostly Farm Yard Manure	Total	%
Sour Soup	0	252	0.0
Black Pepper	0	0	0.0
Pigeon Pea	0	5,092	0.0
Malay Apple	0	0	0.0
Star Fruit	23	23	100.0
Palm Oil	0	132	0.0
Coconut	0	989	0.0
Cashewnut	202	73,116	0.3
Sisal	104	104	100.0
Coffee	18,375	29,827	61.6
Wattle	0	7	0.0
Kapok	0	0	0.0
Sugarcane	157	1,482	10.6
Cardamon	0	0	0.0
Cinamon	0	12	0.0
Jack Fruit	0	0	0.0
Mpesheni	0	32	0.0
Banana	1,348	7,745	17.4
Avocado	43	249	17.1
Mango	3	1,314	0.2
Pawpaw	9	133	7.1
Pineapple	44	161	27.4
Orange	141	2,824	5.0
Grape Fruit	0	15	0.0
Grape	0	0	0.0
Mandarine/Tangerine	62	62	99.4
Guava	10	54	18.5
Plums	0	0	0.0
Apples	0	2	0.0
Pears	0	0	0.0
Pitches	0	0	0.0
Lime/Lemon	6	6	100.0
Bilimbi	0	6	0.0
Total	20,526	123,640	16.6

cont... Planted Area with Fertilizer by Fertilizer Type and Crop

Crop	Mostly Inorganic Fertilizer	Total	%
Sour Soup	0	252	0.0
Black Pepper	0	0	0.0
Pigeon Pea	80	5,092	1.6
Malay Apple	0	0	0.0
Star Fruit	0	23	0.0
Palm Oil	0	132	0.0
Coconut	30	989	3.0
Cashewnut	1,342	73,116	1.8
Sisal	0	104	0.0
Coffee	5,322	29,827	17.8
Wattle	0	7	0.0
Kapok	0	0	0.0
Sugarcane	152	1,482	10.3
Cardamon	0	0	0.0
Cinamon	0	12	0.0
Jack Fruit	0	0	0.0
Mpesheni	29	32	90.5
Banana	110	7,745	1.4
Avocado	0	249	0.0
Mango	131	1,314	10.0
Pawpaw	0	133	0.0
Pineapple	29	161	18.2
Orange	0	2,824	0.0
Grape Fruit	0	15	0.0
Grape	0	0	0.0
Mandarine/Tangerine	0	62	0.0
Guava	0	54	0.0
Plums	0	0	0.0
Apples	0	2	0.0
Pears	0	0	0.0
Pitches	0	0	0.0
Lime/Lemon	0	6	0.0
Bilimbi	0	6	0.0
Total	7,226	123,640	5.8

AGROPROCESSING

8.1.1a: Number of Crop Growing Households Reported to have Processed Products by District; 2002/03 Agriculture Year

	Households That Processed Crops		Households That did not Process Crops		Total	
	Number	%	Number	%	Number	%
Tunduru	46,378	99	520	1	46,898	100
Songea Rural	30,547	99	226	1	30,772	100
Mbinga	76,416	99	1,031	1	77,447	100
Songea Urban	6,806	98	137	2	6,943	100
Namtumbo	28,829	99	286	1	29,115	100
Total	188,975	99	2,200	1	191,175	100

8.1.1b Number of Crop Growing Households by Method of Processing and District; 2002/03 Agricultural Year

District	Method of Processing								Total
	On Farm by Hand	On Farm by Machine	By Neighbour Machine	By Farmers Association	By Co-operative Union	By Trader	On Large Scale Farm	Other	
Tunduru	24,319	918	21,035	0	0	0	0	105	46,378
Songea Rural	3,724	307	25,478	0	76	886	76	0	30,547
Mbinga	15,884	7,736	49,059	132	132	3,343	129	0	76,416
Songea Urban	244	188	6,346	0	0	27	0	0	6,806
Namtumbo	4,134	1,294	23,258	0	72	72	0	0	28,829
Total	48,305	10,442	125,177	132	280	4,328	206	105	188,975

8.1.1c AGRO PROCESSING: Number of Crop Growing Households Processing Crops During 2002/03 Agricultural Year by Location and Crop, Ruvuma Region

Crop	Method of Processing								Total
	On Farm by Hand	On Farm by Machine	By Neighbour Machine	By Farmers Association	By Co-operative Union	By Trader	On Large Scale Farm	Other	
Maize	20,297	10,338	130,475	132	280	4,280	206	0	172,139
Paddy	43,016	1,382	24,048	0	149	666	103	416	73,214
Sorghum	4,850	107	1,433	0	0	74	0	0	6,463
Bulrush Millet	244	0	0	0	0	0	0	0	244
Finger Millet	3,676	430	12,555	0	76	74	0	0	17,314
Cassava	40,092	997	39,600	0	153	0	0	358	101,622
Beans	1,905	0	27	0	0	129	0	0	2,193
Cowpeas	179	0	0	0	0	0	0	0	179
Bambaranut	675	0	0	0	0	0	0	0	675
Simsim	8,927	0	323	0	0	0	0	0	9,379
Groundnut	20,801	0	141	0	0	0	0	0	22,080
Coconut	1,505	0	0	0	0	0	0	0	1,633
Cashewnut	333	0	107	0	0	0	0	0	440
Soya Beans	225	0	0	0	0	0	0	0	225
Coffee	0	76	529	0	0	0	0	0	737
Banana	217	0	622	0	0	0	0	72	910
Cabbage	76	0	0	0	0	0	0	0	76
Sweet Potatoes	0	0	54	0	0	74	0	0	128
Sunflower	254	0	0	0	0	0	0	0	1,034
Wheat	0	660	4,951	0	128	129	0	0	7,056
Sugarcane	0	0	26	0	0	0	0	0	26
Tomatoes	69	0	0	0	0	0	0	27	95
Irish Potatoes	73	0	0	0	0	0	0	0	73
Pumpkins	3,467	307	25,556	0	76	886	76	0	30,368

8.1.1d AGRO PROCESSING: Number of Crop Growing Households Reporting Processing of Farm Products Produced During 2002/03 Agricultural Year by Use of Product and Crop, Ruvuma Region

Crop	Product Use						Total
	Household / Human Consumption	Fuel for Cooking	Sale Only	Animal Consumption	Did Not Use	Other	
Maize	171,419	0	233	280	207	0	172,139
Paddy	70,980	178	1,623	149	283	0	73,214
Sorghum	6,359	0	0	104	0	0	6,463
Bulrush Millet	244	0	0	0	0	0	244
Finger Millet	16,414	72	402	0	0	427	17,314
Wheat	7,056	0	0	0	0	0	7,056
Cassava	101,115	128	226	54	27	72	101,622
Sweet Potatoes	128	0	0	0	0	0	128
Irish Potatoes	73	0	0	0	0	0	73
Beans	2,121	0	73	0	0	0	2,193
Cowpeas	179	0	0	0	0	0	179
Bambaranut	675	0	0	0	0	0	675
Sunflower	1,034	0	0	0	0	0	1,034
Simsim	9,163	0	216	0	0	0	9,379
Groundnut	21,282	144	576	0	0	77	22,080
Coconut	1,633	0	0	0	0	0	1,633
Cashewnut	440	0	0	0	0	0	440
Soya Beans	153	0	72	0	0	0	225
Coffee	265	0	472	0	0	0	737
Sugarcane	0	0	26	0	0	0	26
Banana	910	0	0	0	0	0	910
Cabbage	76	0	0	0	0	0	76
Tomatoes	95	0	0	0	0	0	95
Pumpkins	278	0	0	0	0	0	278
Total	412,092	521	3,919	587	517	575	418,212

8.1.1e AGRO PROCESSING: Number of Crop Growing Households Reporting Processing of Farm Products Produced During 2002/03 Agricultural Year by Location of Sale of Product and Crop, Ruvuma Region

Crop	Where Sold								Total
	Neighbours	Local Market / Trade Store	Marketing Co-operative	Farmers Association	Large Scale Farm	Trader at Farm	Other	Did not Sell	
Maize	3,321	551	488	0	132	934	9,505	157,208	172,139
Paddy	3,147	505	134	284	358	977	3,861	63,947	73,214
Sorghum	107	0	0	0	0	0	640	5,716	6,463
Bulrush Millet	0	0	0	0	0	0	0	244	244
Finger Millet	220	0	72	0	0	145	1,333	15,544	17,314
Wheat	132	0	0	0	128	0	0	6,795	7,056
Cassava	3,564	146	0	75	325	0	6,414	91,097	101,622
Sweet Potatoes	0	0	0	0	0	0	0	128	128
Irish Potatoes	0	0	0	0	0	0	0	73	73
Beans	286	0	286	0	0	73	724	824	2,193
Cowpeas	0	0	0	0	0	0	73	107	179
Bambaranut	0	0	0	0	0	0	73	603	675
Sunflower	0	0	0	0	0	0	0	1,034	1,034
Simsim	0	0	143	0	0	72	723	8,441	9,379
Groundnut	787	73	0	0	105	359	1,340	19,417	22,080
Coconut	0	0	0	0	0	0	0	1,633	1,633
Cashewnut	0	0	0	0	0	0	0	440	440
Soya Beans	0	0	72	0	0	0	0	153	225
Coffee	0	0	208	132	0	0	132	265	737
Sugarcane	0	0	0	0	0	0	0	26	26
Banana	0	0	0	0	0	0	217	693	910
Cabbage	0	0	0	0	0	0	0	76	76
Tomatoes	0	0	0	0	0	0	0	95	95
Pumpkins	0	0	0	0	0	0	0	278	278
Total	11,564	1,275	1,403	492	1,049	2,560	25,033	374,836	418,212

8.1.1f AGRO PROCESSING: Number of Crop Growing Households By Main Product and District During 2002/03 Agriculture Year, Ruvuma Region

District	Main Product				Total
	Flour / Meal	Grain	Oil	Juice	
Tunduru	31,588	14,578	106	106	46,378
Songea Rural	28,644	1,902	0	0	30,547
Mbinga	73,255	3,161	0	0	76,416
Songea Urban	6,424	354	0	27	6,806
Namtumbo	28,111	718	0	0	28,829
Total	168,023	20,713	106	133	188,975

8.1.1g AGRO PROCESSING: Number of Crop Growing Households By Use of Primary Processed Product and District During 2002/03 Agriculture Year, Ruvuma Region

District	Product Use					Total
	Household / Human Consumption	Fuel for Cooking	Sale Only	Animal Consumption	Did Not Use	
Tunduru	46,168	0	210	0	0	46,378
Songea Rural	30,165	0	231	76	76	30,547
Mbinga	75,638	128	386	132	131	76,416
Songea Urban	6,779	0	27	0	0	6,806
Namtumbo	28,757	0	0	72	0	28,829
Total	187,506	128	854	280	207	188,975

8.1.1h AGRO PROCESSING: Number of Crop Growing Households By Where Product Sold and District During 2002/03 Agriculture Year, Ruvuma Region

District	Where Sold								Total
	Neighbours	Local Market / Trade Store	Marketing Co-operative	Farmers Association	Large Scale Farm	Trader at Farm	Other	Did not Sell	
Tunduru	740	107	107	105	105	106	1,366	43,742	46,378
Songea Rural	303	77	0	0	0	384	1,436	28,347	30,547
Mbinga	3,081	615	0	0	260	257	794	71,408	76,416
Songea Urban	271	109	0	0	0	27	27	6,371	6,806
Namtumbo	718	0	358	0	0	489	6,789	20,475	28,829
Total	5,114	907	465	105	365	1,263	10,412	170,343	188,975

8.1.1i AGRO PROCESSING: Number of Crop Growing Households By type of By-Product and District During 2002/03 Agriculture Year, Ruvuma Region

District	By Product							Total
	Bran	Cake	Husk	Juice	Fiber	Shell	No by-product	
Tunduru	23,674	212	16,138	212	105	213	5,824	46,378
Songea Rural	29,020	0	458	0	0	0	1,069	30,547
Mbinga	64,462	0	3,665	0	0	0	8,289	76,416
Songea Urban	6,641	0	82	0	0	0	82	6,806
Namtumbo	28,543	0	141	0	0	0	145	28,829
Total	152,339	212	20,484	212	105	213	15,410	188,975

MARKETING

10.1: Number of Crop Producing Households Reported to have Sold Agricultural Produce by District During 2002/03; Ruvuma Region

	Households that Sold		Households that Did not Sell		Total Number of households
	Number	%	Number	%	
Tunduru	45,053	96.1	1,845	3.9	46,898
Songea Rural	28,109	91.3	2,663	8.7	30,772
Mbinga	70,589	91.1	6,857	8.9	77,447
Songea Urban	5,717	82.3	1,226	17.7	6,943
Namtumbo	27,456	94.3	1,659	5.7	29,115
Total	176,924	92.5	14,250	7.5	191,175

10.2: Number of Households who Reported Main Reasons for Not Selling their Crops by District During 2002/03 Agricultural Year, Ruvuma Region

District	Main Reasons for Not Selling Crops								
	Price Too Low	Production Insufficient to Sell	Market Too Far	Farmers Association Problems	Co-operative Problems	Trade Union Problems	Other	Not Applicable	Total
Tunduru	745	3,612	0	0	105	942	106	40,557	46,067
Songea Rural	77	2,966	0	0	0	0	73	27,120	30,236
Mbinga	254	16,843	518	0	393	0	123	56,858	74,989
Songea Urban	81	1,390	0	0	0	0	0	5,362	6,833
Namtumbo	0	2,014	0	72	0	0	0	26,741	28,827
Total	1,156	26,823	518	72	498	942	303	156,637	186,951

10.3 Proportion of Households who Reported Main Reason for Not Selling Their Crops by District during 2002/03 Agricultural Year, Ruvuma Region

District	Main Reasons for Not Selling Crops								
	Price Too Low	Production Insufficient to Sell	Market Too Far	Farmers Association Problems	Co-operative Problems	Trade Union Problems	Other	Not Applicable	Total
Tunduru	1.62	7.84	0.00	0.00	0.23	2.05	0.23	88.04	100.00
Songea Rural	0.25	9.81	0.00	0.00	0.00	0.00	0.24	89.69	100.00
Mbinga	0.34	22.46	0.69	0.00	0.52	0.00	0.16	75.82	100.00
Songea Urban	1.19	20.34	0.00	0.00	0.00	0.00	0.00	78.47	100.00
Namtumbo	0.00	6.99	0.00	0.25	0.00	0.00	0.00	92.76	100.00
Total	0.62	14.35	0.28	0.04	0.27	0.50	0.16	83.79	100.00

IRRIGATION/EROSION CONTROL

**11.1 Number and Percent of Households Reporting use of irrigation during 2002/03
Agricultural year by District**

	Households Practicing Irrigation		Households not Practicing Irrigation		Total	
	Number of Household	%	Number of Household	%	Number of Household	%
Tunduru	3,871	8	43,027	92	46,898	100
Songea Rural	4,485	15	26,287	85	30,772	100
Mbinga	9,024	12	68,422	88	77,447	100
Songea Urban	2,865	41	4,078	59	6,943	100
Namtumbo	4,314	15	24,801	85	29,115	100
Total	24,560	13	166,615	87	191,175	100

11.2 IRRIGATION: Area (ha) of Irrigatable and NON irrigated land by district during 2002/03 agriculture year

District	Irrigatable Area (ha)	Irrigated Land (ha)	%
Tunduru	2,126	1,298	61.0
Songea Rural	2,708	785	29.0
Mbinga	2,464	1,555	63.1
Songea Urban	1,229	866	70.4
Namtumbo	3,984	1,549	38.9
Total	12,510	6,052	48.4

11.3: IRRIGATION: Number of Agriculture Households using irrigation by Source of Irrigation Water by districts during the 2002/03 agricultural Year

District	Source of Irrigation Water							Total
	River	Lake	Dam	Well	Borehole	Canal	Pipe water	
Tunduru	2,516	106	529	317	0	299	104	3,871
Songea Rural	3,798	0	76	534	0	77	0	4,485
Mbinga	3,689	128	0	129	0	4,948	132	9,024
Songea Urban	2,266	0	54	381	0	136	27	2,865
Namtumbo	3,529	0	0	285	72	284	143	4,314
Total	15,798	234	660	1,646	72	5,744	406	24,560

11.4: IRRIGATION: Number of Agriculture Households by Method used to obtain water and District during 2002/03 Agricultural Year

District	Method of Obtaining Water					Total
	Gravity	Hand Bucket	Motor Pump	Other		
Tunduru	968	2,800	104	0	3,871	
Songea Rural	1,980	2,358	147	0	4,485	
Mbinga	2,726	6,166	0	132	9,024	
Songea Urban	1,366	1,499	0	0	2,865	
Namtumbo	3,097	1,217	0	0	4,314	
Total	10,137	14,040	250	132	24,560	

11.5 IRRIGATION: Number of Agriculture Households by Method of Field Application of Irrigation Water and District for the 2002/03 Agricultural Year

District	Method of Application				Total
	Flood	Sprinkler	Water Hose	Bucket / Watering Can	
Tunduru	969	104	205	2,593	3,871
Songea Rural	1,438	229	0	2,818	4,485
Mbinga	2,060	393	0	6,571	9,024
Songea Urban	789	520	0	1,556	2,865
Namtumbo	2,162	0	0	2,152	4,314
Total	7,419	1,245	205	15,691	24,560

11.6: Number of Households with Erosion Control/Water Harvesting Facilities on their Land By District

District	Presence of Erosion Control/Water Harvesting Facilities				
	Have Facility		Does Not Have Facility		Number of Households
	Number	%	Number	%	
Tunduru	615	1	46,283	99	46,898
Songea Rural	1,063	3	29,709	97	30,772
Mbinga	9,554	12	67,893	88	77,447
Songea Urban	739	11	6,204	89	6,943
Namtumbo	432	1	28,684	99	29,115
Total	12,403	6	178,772	94	191,175

11.7 EROSION CONTROL: Number of Erosion Control/Water Harvesting Structures By Type and District as of 2002/03 Agricultural Year

District	Type of Erosion Control								Total
	Terraces	Erosion Control Bunds	Gabions / Sandbag	Vetiver Grass	Tree Belts	Water Harvesting Bunds	Drainage Ditches	Dam	
Tunduru	0	1,036	0	977	0	0	0	0	2,014
Songea Rural	0	537	0	456	1,115	2,868	76	0	5,052
Mbinga	84,628	54,132	0	1,159	2,451	32,259	6,294	386	181,309
Songea Urban	27	1,125	137	1,201	3,479	1,840	577	0	8,387
Namtumbo	0	360	0	215	361	215	361	287	1,799
Total	84,655	57,191	137	4,008	7,407	37,183	7,307	672	198,561

ACCESS TO FARM INPUTS

Table 12.1.1 ACCESS TO INPUTS: Number of Crop Growing Households Using Chemical Fertilizer by District, 2002/03 Agricultural Year

District	Using Chemical Fertilizer		NOT Using Chemical Fertilizer		Total Number of Crop growing households
	No of households	%	No of households	%	
Songea Rural	25,515	82.9	5,257	17.1	30,772
Namtumbo	23,957	82.3	5,158	17.7	29,115
Mbinga	20,791	26.8	56,656	73.2	77,447
Tunduru	15,104	32.2	31,793	67.8	46,898
Songea Urban	6,562	94.5	380	5.5	6,943
Total	91,930	48.1	99,245	51.9	191,175

Table 12.1.2 ACCESS TO INPUTS: Number of Crop Growing Households Using Farm Yard Manure by District during 2002/03 Agricultural Year

District	Using Farm Yard Manure		Not Using Farm Yard Manure		Total Number of Crop growing households
	No of households	%	No of households	%	
Tunduru	4,103	9	42,795	91	46,898
Songea Rural	9,789	32	20,983	68	30,772
Mbinga	38,666	50	38,780	50	77,447
Songea Urban	2,751	40	4,192	60	6,943
Namtumbo	5,755	20	23,360	80	29,115
Total	61,064	32	130,111	68	191,175

Table 12.1.3 ACCESS TO INPUTS: Number of Crop Growing Households Using COMPOST Manure by District during 2002/03 Agricultural Year

District	Using Compost		Not Using Compost		Total Number of Crop growing households
	No of households	%	No of households	%	
Tunduru	296	0.6	46,602	99.4	46,898
Songea Rural	1,145	3.7	29,628	96.3	30,772
Mbinga	3,740	4.8	73,707	95.2	77,447
Songea Urban	269	3.9	6,674	96.1	6,943
Namtumbo	855	2.9	28,260	97.1	29,115
Total	6,305	3.3	184,870	96.7	191,175

Table 12.1.4 ACCESS TO INPUTS: Number of Crop Growing Households Using Insecticide/Fungicides by District during 2002/03 Agricultural Year

District	Using Insecticides/Fungicide		Not Using Insecticide/Fungi		Total Number of Crop growing households
	No of households	%	No of households	%	
Mbinga	38,195	49	39,252	51	77,447
Tunduru	19,224	41	27,674	59	46,898
Songea Rural	3,934	13	26,838	87	30,772
Songea Urban	2,130	31	4,812	69	6,943
Namtumbo	2,445	8	26,670	92	29,115
Total	65,929	34	125,245	66	191,175

Table 12.1.5 ACCESS TO INPUTS: Number of Crop Growing Households Using Herbicides by District during 2002/03 Agricultural Year

District	Using Herbicides		Not Using Herbicides		Total Number of Crop growing households
	No of households	%	No of households	%	
Tunduru	0	0	46,898	100	46,898
Songea Rural	228	1	30,544	99	30,772
Mbinga	1,701	2	75,746	98	77,447
Songea Urban	82	1	6,860	99	6,943
Namtumbo	0	0	29,115	100	29,115
Total	2,011	1	189,163	99	191,175

Table 12.1.6 ACCESS TO INPUTS: Number of Crop Growing Households using Improved Seeds by District during 2002/03 Agricultural Year

District	Using Improved Seeds		Not Using Improved Seeds		Total Number of Crop growing households
	No of households	%	No of households	%	
Tunduru	2,164	5	44,734	95	46,898
Songea Rural	6,857	22	23,915	78	30,772
Mbinga	10,036	13	67,411	87	77,447
Songea Urban	2,625	38	4,318	62	6,943
Namtumbo	4,963	17	24,152	83	29,115
Total	26,646	14	164,529	86	191,175

Table 12.1.7 ACCESS TO INPUTS: Number of Agricultural Households by Source of Chemical Fertilizer and District, 2002/03 Agricultural Year

District	Cooperatives		Local Farmers Group		Local Market/Trade Sotre		Secondary Market		Crop Buyers		Large Scale Farm	
	Number	%	Number	%	Number	%			Number	%	Number	%
Tunduru	1,381	2.9	719	1.5	12,060	25.7	0	0.0	309	0.7	107	0.2
Songea Rural	1,438	4.7	0	0.0	23,250	75.6	150	0.5	150	0.5	0	0.0
Mbinga	2,238	2.9	1,304	1.7	16,589	21.4	0	0.0	132	0.2	0	0.0
Songea Urban	27	0.4	53	0.8	6,454	93.0	27	0.4	0	0.0	0	0.0
Namtumbo	10,459	35.9	72	0.2	12,422	42.7	358	1.2	143	0.5	0	0.0
Total	15,544	8.1	2,148	1.1	70,774	37.0	535	0.3	735	0.4	107	0.1

cont...Table 12.1.7 ACCESS TO INPUTS: Number of Agricultural Households by Source of Chemical Fertilizer and District, 2002/03 Agricultural Year

District	Locally Produced by Household		Neighbour		Other		Not applicable		Total
	Number	%	Number	%	Number	%	Number	%	Number
Tunduru	0	0.0	423	0.9	105	0.2	31793	67.8	46,898
Songea Rural	147	0.5	303	0.9	77	0.3	5256.9	17.1	30,772
Mbinga	0	0.0	527	0.9	0	0.0	56656	73.2	77,447
Songea Urban	0	0.0	0	0.9	0	0.0	380.41	5.5	6,943
Namtumbo	0	0.0	504	0.9	0	0.0	5158.4	17.7	29,115
Total	147	0.1	1,757	0.9	182	0.1	99245	51.9	191,175

Table 12.1.8 ACCESS TO INPUTS: Number of Agricultural Households by Source of Farm Yard Manure and District, 2002/03 Agricultural Year

District	Cooperatives		Local Farmers Group		Local Market/Trade Sotre		Secondary Market		Development Project		Crop Buyers	
	Number	%	Number	%	Number	%			Number	%	Number	%
Tunduru	107	0.2	0	0.0	107	0.2	0	0.0	0	0.0	0	0.0
Songea Rural	0	0.0	0	0.0	76	0.2	0	0.0	74	0.2	0	0.0
Mbinga	0	0.0	0	0.0	0	0.0	0	0.0	128	0.2	132	0.2
Songea Urban	0	0.0	81	1.2	82	1.2	27	0.4	27	0.4	0	0.0
Namtumbo	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	107	0.1	81	0.0	265	0.1	27	0.0	229	0.1	132	0.1

cont.....Table 12.1.8 ACCESS TO INPUTS: Number of Agricultural Households by Source of Farm Yard Manure and District, 2002/03 Agricultural Year

District	Large Scale Farm		Locally Produced by Household		Neighbour		Other		Not applicable		Total Number
	Number	%	Number	%	Number	%	Number	%	Number	%	
Tunduru	0	0.0	1,216	2.6	2,673	5.7	0	0.0	42,795	91.3	46,898
Songea Rural	226	0.7	6,296	20.5	2,964	9.6	153	0.5	20,983	68.2	30,772
Mbinga	397	0.5	33,984	43.9	4,025	5.2	0	0.0	38,780	50.1	77,447
Songea Urban	0	0.0	2,043	29.4	491	7.1	0	0.0	4,192	60.4	6,943
Namtumbo	434	1.5	3,308	11.4	1,942	6.7	72	0.2	23,360	80.2	29,115
Total	1,057	0.6	46,848	24.5	12,095	6.3	224	0.1	130,111	68.1	191,175

Table 12.1.9 ACCESS TO INPUTS: Number of Agricultural Households and Source of COMPOST Manure by District, 2002/03 Agricultural Year

District	Local Farmers Group		Local Market/Trade Store		Locally Produced by Household		Neighbour		Other		Not applicable		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Tunduru	0	0.0	0	0.0	208	0.4	0	0.0	89	0.2	46,602	99.4	46,898
Songea Rural	0	0.0	0	0.0	991	3.2	154	0.5	0	0.0	29,628	96.3	30,772
Mbinga	0	0.0	254	0.3	3,230	4.2	256	0.3	0	0.0	73,707	95.2	77,447
Songea Urban	27	0.4	27	0.4	215	3.1	0	0.0	0	0.0	6,646	96.1	6,915
Namtumbo	0	0.0	0	0.0	783	2.7	72	0.2	0	0.0	28,260	97.1	29,115
Total	27	0.0	281	0.1	5,426	2.8	482	0.3	89	0.0	184,842	96.7	191,147

Table 12.1.10 ACCESS TO INPUTS: Number of Agricultural Households and Source of Insecticides/Fungicides by District, 2002/03 Agricultural Year

District	Cooperatives		Local Farmers Group		Local Market/Trade Store		Development Project		Crop Buyers	
	Number	%	Number	%	Number	%	Number	%	Number	%
Tunduru	6,744	14.4	5,744	12.2	6,005	12.8	103	0.2	107	0.2
Songea Rural	757	2.5	0	0.0	2,880	9.4	0	0.0	0	0.0
Mbinga	9,317	12.0	4,190	5.4	20,118	26.0	0	0.0	1,960	2.5
Songea Urban	0	0.0	27	0.4	2,103	30.3	0	0.0	0	0.0
Namtumbo	141	0.5	644	2.2	1,589	5.5	0	0.0	0	0.0
Total	16,959	8.9	10,605	5.5	32,694	17.1	103	0.1	2,067	1.1

cont...Table 12.1.10 ACCESS TO INPUTS: Number of Agricultural Households and Source of Insecticides/Fungicides by District, 2002/03 Agricultural Year

District	Locally Produced by Household		Neighbour		Other		Not applicable		Total
	Number	%	Number	%	Number	%	Number	%	Number
Tunduru	0	0.0	420	0.9	103	0.2	27,674	59.0	46,898
Songea Rural	76	0.2	223	0.7	0	0.0	26,838	87.2	30,772
Mbinga	264	0.3	2,346	3.0	0	0.0	39,252	50.7	77,447
Songea Urban	0	0.0	0	0.0	0	0.0	4,812	69.3	6,943
Namtumbo	0	0.0	72	0.2	0	0.0	26,670	91.6	29,115
Total	340	0.2	3,060	1.6	103	0.1	125,245	65.5	191,175

Table 12.1.11 ACCESS TO INPUTS: Number of Agricultural Households by Source of Herbicides and District, 2002/03 Agricultural Year

District	Cooperative		Local Market/Trade Store		Locally Produced by Household		Neighbour		Not applicable		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number
Tunduru	0	0.0	0	0.0	0	0.0	0	0.0	46,898	100.0	46,898
Songea Rural	76	0.2	0	0.0	76	0.2	77	0.3	30,544	99.3	30,772
Mbinga	394	0.5	1,046	1.4	0	0.0	260	0.3	75,746	97.8	77,447
Songea Urban	0	0.0	82	1.2	0	0.0	0	0.0	6,833	98.8	6,915
Namtumbo	0	0.0	0	0.0	0	0.0	0	0.0	29,115	100.0	29,115
Total	470	0.2	1,128	0.6	76	0.0	337	0.2	189,136	98.9	191,147

12.1.12 ACCESS TO INPUTS: Number of Agricultural Households Source of Improved Seeds by District, 2002/03 Agricultural Year

District	Cooperative		Local Farmers Group		Local Market / Trade Store		Secondary Market		Development Project		Crop Buyers		Large Scale Farm	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Tunduru	205	0.4	0	0.0	1,035	2.2	0	0.0	0	0.0	105	0.2	107	0.2
Songea Rural	914	3.0	0	0.0	5,641	18.3	0	0.0	0	0.0	0	0.0	0	0.0
Mbinga	132	0.2	128	0.2	8,765	11.3	110	0.1	129	0.2	0	0.0	0	0.0
Songea Urban	0	0.0	110	1.6	2,378	34.2	0	0.0	0	0.0	55	0.8	0	0.0
Namtumbo	1,298	4.5	0	0.0	3,166	10.9	0	0.0	73	0.2	72	0.2	0	0.0
Total	2,549	1.3	237	0.1	20,984	11.0	110	0.1	201	0.1	232	0.1	107	0.1

cont...12.1.12 ACCESS TO INPUTS: Number of Agricultural Households Source of Improved Seeds by District, 2002/03 Agricultural Year

District	Locally Produced by Household		Neighbour		Other		Not applicable		Total
	Number	%	Number	%	Number	%	Number	%	Number
Tunduru	0	0.0	610	1.3	103	0.22	44,734	95.39	46,898
Songea Rural	0	0.0	303	1.0	0	0	23,915	77.72	30,772
Mbinga	0	0.0	773	1.0	0	0	67,411	87.04	77,447
Songea Urban	27	0.4	55	0.8	0	0	4,318	62.19	6,943
Namtumbo	0	0.0	285	1.0	69	0.24	24,152	82.95	29,115
Total	27	0.0	2,026	1.1	171	0.09	164,529	86.06	191,175

12.1.13 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Chemical Fertilizer by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		Total Number
	Number	%	Number	%	Number	%	Number	%	Number	%	
Tunduru	4,445	29	816	5	2,520	17	1,681	11	5,642	37	15,104
Songea Rural	3,248	13	1,206	5	3,164	12	8,551	34	9,346	37	25,515
Mbinga	3,209	15	2,709	13	4,792	23	4,525	22	5,555	27	20,791
Songea Urban	240	4	748	11	3,522	54	1,944	30	109	2	6,562
Namtumbo	10,923	46	4,316	18	2,510	10	1,444	6	4,764	20	23,957
Total	22,065	24	9,794	11	16,509	18	18,145	20	25,416	28	91,930

12.1.14 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Farm Yard Manure by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Tunduru	3,793	92	105	3	205	5	0	0	0	0	4,103
Songea Rural	9,030	92	455	5	304	3	0	0	0	0	9,789
Mbinga	37,360	97	261	1	393	1	520	1	132	0	38,666
Songea Urban	2,504	91	82	3	165	6	0	0	0	0	2,751
Namtumbo	4,959	86	362	6	72	1	362	6	0	0	5,755
Total	57,646	94	1,265	2	1,139	2	882	1	132	0	61,064

12.1.15 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of COMPOST Manure by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		Total
	Number	%	Number	%	Number	%	Number	%	Number
Tunduru	296	100	0	0	0	0	0	0	296
Songea Rural	1,145	100	0	0	0	0	0	0	1,145
Mbinga	3,611	97	0	0	129	3	0	0	3,740
Songea Urban	242	90	27	10	0	0	0	0	269
Namtumbo	642	75	72	8	69	8	72	8	855
Total	5,935	94	100	2	198	3	72	1	6,305

12.1.16 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Improved Seeds by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		Total Number
	Number	%	Number	%	Number	%	Number	%	Number	%	
Tunduru	1,023	47	0	0	213	10	0	0	928	43	2,164
Songea Rural	1,135	17	77	1	836	12	1,987	29	2,824	41	6,857
Mbinga	1,603	16	774	8	2,596	26	2,491	25	2,573	26	10,036
Songea Urban	162	6	188	7	1,562	60	685	26	27	1	2,625
Namtumbo	1,578	32	648	13	434	9	362	7	1,941	39	4,963
Total	5,501	21	1,686	6	5,641	21	5,524	21	8,293	31	26,646

12.1.17(a) ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Insecticide/Fungicides by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		Total Number
	Number	%	Number	%	Number	%	Number	%	Number	%	
Tunduru	11,190	58	1,658	9	1,741	9	2,009	10	2,627	14	19,224
Songea Rural	377	10	302	8	679	17	686	17	1,890	48	3,934
Mbinga	9,191	24	7,858	21	6,113	16	8,522	22	6,511	17	38,195
Songea Urban	0	0	162	8	1,149	54	820	38	0	0	2,130
Namtumbo	854	35	217	9	0	0	218	9	1,156	47	2,445
Total	21,612	33	10,198	15	9,681	15	12,255	19	12,184	18	65,929

Table 12.1.17(b) ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Herbicides by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		Total
	Number	%	Number	%	Number	%	Number	%	Number
Songea Rural	152	66	0	0	0	0	77	34	228
Mbinga	523	31	391	23	526	31	260	15	1,701
Songea Urban	0	0	82	100	0	0	0	0	82
Total	675	34	474	24	526	26	337	17	2,011

12.1.18 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Chemical Fertilizer by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Tunduru	1,032	3	29,722	93	318	1	106	0	402	1	0	0	213	1	31,793
Songea Rural	832	16	3,965	75	0	0	76	1	154	3	0	0	230	4	5,257
Mbinga	3,504	6	43,769	77	378	1	521	1	8,220	15	263	0	0	0	56,656
Songea Urban	0	0	353	93	0	0	0	0	27	7	0	0	0	0	380
Namtumbo	217	4	4,725	92	144	3	0	0	0	0	0	0	72	1	5,158
Total	5,586	6	82,534	83	840	1	703	1	8,804	9	263	0	515	1	99,245

12.1.19 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Farm Yard Manure by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Tunduru	19,156	45	1,355	3	10,661	25	210	0	10,484	24	525	1	104	0	300	1	42,795
Songea Rural	10,527	50	2,444	12	3,129	15	458	2	2,822	13	1,147	5	76	0	381	2	20,983
Mbinga	17,535	45	2,428	6	8,813	23	1,043	3	1,658	4	4,821	12	0	0	2,482	6	38,780
Songea Urban	2,481	59	461	11	1,087	26	54	1	0	0	27	1	0	0	82	2	4,192
Namtumbo	11,503	49	937	4	7,045	30	143	1	3,732	16	0	0	0	0	0	0	23,360
Total	61,202	47	7,625	6	30,736	24	1,908	1	18,696	14	6,520	5	179	0	3,245	2	130,111

12.1.20 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using COMPOST Manure by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Tunduru	3,785	8	1,475	3	22,360	48	104	0	17,843	38	413	1	416	1	205	0	46,602
Songea Rural	1,214	4	2,745	9	10,638	36	978	3	11,146	38	1,606	5	228	1	1,072	4	29,628
Mbinga	10,325	14	1,919	3	38,109	52	1,296	2	13,583	18	6,257	8	784	1	1,434	2	73,707
Songea Urban	1,632	24	488	7	3,604	54	55	1	759	11	81	1	0	0	54	1	6,674
Namtumbo	3,900	14	1,446	5	11,821	42	144	1	10,805	38	0	0	73	0	72	0	28,260
Total	20,856	11	8,073	4	86,534	47	2,576	1	54,136	29	8,358	5	1,500	1	2,836	2	184,870

12.1.21 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Insecticides/Fungicides by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Other		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Tunduru	2,734	10	23,191	84	211	1	0	0	845	3	692	3	0	0	27,674
Songea Rural	1,900	7	19,069	71	153	1	153	1	2,130	8	3,129	12	304	1	26,838
Mbinga	5,146	13	28,036	71	633	2	132	0	387	1	4,792	12	124	0	39,252
Songea Urban	27	1	3,838	80	160	3	27	1	82	2	677	14	0	0	4,812
Namtumbo	927	3	22,353	84	1,014	4	0	0	1,651	6	652	2	72	0	26,670
Total	10,735	9	96,487	77	2,171	2	313	0	5,096	4	9,942	8	501	0	125,245

12.1.22 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Herbicides by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Other		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Tunduru	7,822	17	30,276	65	106	0	0	0	7,683	16	904	2	107		46,898
Songea Rural	1,897	6	18,002	59	151	0	77	0	4,322	14	5,712	19	383		30,544
Mbinga	6,335	8	51,180	68	886	1	263	0	1,790	2	15,167	20	124		75,746
Songea Urban	242	4	4,304	63	409	6	27	0	680	10	1,171	17	27		6,860
Namtumbo	1,649	6	21,495	74	722	2	0	0	2,082	7	3,168	11	0		29,115
Total	17,946	9	125,257	66	2,274	1	367	0	16,557	9	26,122	14	641		189,163

12.1.23 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Improved Seeds by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Tunduru	12,404	28	30,996	69	0	0	0	0	932	2	193	0	105	0	104	0	44,734
Songea Rural	2,276	10	20,346	85	381	2	0	0	533	2	302	1	0	0	76	0	23,915
Mbinga	14,358	21	49,558	74	500	1	132	0	782	1	2,080	3	0	0	0	0	67,411
Songea Urban	134	3	4,046	94	27	1	0	0	0	0	27	1	0	0	82	2	4,318
Namtumbo	2,069	9	20,420	85	579	2	0	0	939	4	145	1	0	0	0	0	24,152
Total	31,242	19	125,367	76	1,488	1	132	0	3,185	2	2,748	2	105	0	262	0	164,529

Table 12.1.24 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Chemical Fertilizer by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Poor		Total
	Number	%	Number	%	Number	%	Number	%	
Tunduru	5,567	37	8,263	55	1,170	8	105	1	15,104
Songea Rural	8,806	35	15,716	62	841	3	152	1	25,515
Mbinga	4,647	22	13,757	66	2,265	11	122	1	20,791
Songea Urban	872	13	5,041	77	543	8	106	2	6,562
Namtumbo	6,419	27	16,965	71	572	2	0	0	23,957
Total	26,311	29	59,743	65	5,392	6	485	1	91,930

12.1.25 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Farm Yard Manure by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Poor		Total
	Number	%	Number	%	Number	%	Number	%	
Tunduru	1,118	27	2,771	68	213	5	0	0	4,103
Songea Rural	2,806	29	6,219	64	763	8	0	0	9,789
Mbinga	15,310	40	19,689	51	3,668	9	0	0	38,666
Songea Urban	431	16	1,992	72	273	10	55	2	2,751
Namtumbo	1,223	21	3,958	69	503	9	72	1	5,755
Total	20,888	34	34,629	57	5,420	9	127	0	61,064

12.1.26 ACCESS TO INPUTS: Number of Agricultural Households and Quality of COMPOST Manure by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Total
	Number	%	Number	%	Number	%	
Songea Rural	0	0	228	100	0	0	228
Mbinga	520	31	921	54	260	15	1,701
Songea Urban	0	0	82	100	0	0	82
Total	520	26	1,231	61	260	13	2,011

12.1.27 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Insecticides/Fungicides by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Poor		Does not Work		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Tunduru	4,103	21	11,140	58	3,771	20	105	1	105	1	19,224
Songea Rural	1,059	27	2,799	71	77	2	0	0	0	0	3,934
Mbinga	6,531	17	28,542	75	2,342	6	780	2	0	0	38,195
Songea Urban	328	15	1,638	77	110	5	55	3	0	0	2,130
Namtumbo	641	26	1,659	68	145	6	0	0	0	0	2,445
Total	12,661	19	45,778	69	6,444	10	941	1	105	0	65,929

12.1.28 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Herbicides by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Total
	Number	%	Number	%	Number	%	
Songea Rural	0	0	228	100	0	0	228
Mbinga	520	31	921	54	260	15	1,701
Songea Urban	0	0	82	100	0	0	82
Total	520	26	1,231	61	260	13	2,011

12.1.29 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Improved Seeds by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Poor		Total
	Number	%	Number	%	Number	%	Number	%	
Tunduru	838	39	1,222	56	104	5	0	0	2,164
Songea Rural	1,830	27	4,797	70	230	3	0	0	6,857
Mbinga	3,075	31	6,307	63	522	5	131	1	10,036
Songea Urban	383	15	2,025	77	190	7	27	1	2,625
Namtumbo	569	11	4,322	87	72	1	0	0	4,963
Total	6,695	25	18,673	70	1,118	4	159	1	26,646

12.1.30 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Chemical Fertilizer Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use Chemical Fertilizers Next Year		Agricultural Households With NO Plan to use Chemical Fertilizers		Total
	Number	%	Number	%	
Tunduru	25,472	54	21,425	46	46,898
Songea Rural	27,346	89	3,426	11	30,772
Mbinga	35,197	45	42,250	55	77,447
Songea Urban	6,725	97	218	3	6,943
Namtumbo	26,692	92	2,424	8	29,115
Total	121,432	64	69,742	36	191,175

12.1.31 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Farm Yard Manure Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use Next Year Farm Yard Manure		Agricultural Households With NO Plan to use Next Year Farm Yard Manure		Total
	Number	%	Number	%	
Tunduru	5,253	11	41,644	89	46,898
Songea Rural	10,793	35	19,979	65	30,772
Mbinga	46,041	59	31,405	41	77,447
Songea Urban	3,079	44	3,864	56	6,943
Namtumbo	7,194	25	21,921	75	29,115
Total	72,361	38	118,814	62	191,175

12.1.33 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Insecticides/Fungicides Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use Pesticides/Fungicides Next Year		Agricultural Households With NO Plan to use Pesticides/Fungicides Next Year		Total
	Number	%	Number	%	
Tunduru	24,030	51	22,868	49	46,898
Songea Rural	5,238	17	25,535	83	30,772
Mbinga	42,719	55	34,728	45	77,447
Songea Urban	2,159	31	4,784	69	6,943
Namtumbo	3,093	11	26,023	89	29,115
Total	77,237	40	113,938	60	191,175

12.1.32 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use COMPOST Manure Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use COMPOST Manure Next Year		Agricultural Households With NO Plan to use COMPOST		Total
	Number	%	Number	%	
Tunduru	1,563	3	45,334	97	46,898
Songea Rural	2,134	7	28,639	93	30,772
Mbinga	8,553	11	68,894	89	77,447
Songea Urban	516	7	6,427	93	6,943
Namtumbo	1,065	4	28,050	96	29,115
Total	13,832	7	177,343	93	191,175

12.1.34 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Herbicides Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use Herbicides Next Year		Households With NO Plan to use Herbicides Next Year		Total
	Number	%	Number	%	
Tunduru	1,153	2	45,745	98	46,898
Songea Rural	993	3	29,780	97	30,772
Mbinga	4,445	6	73,002	94	77,447
Songea Urban	165	2	6,778	98	6,943
Namtumbo	647	2	28,468	98	29,115
Total	7,403	4	183,772	96	191,175

Table 12.1.35 ACCESS TO INPUTS: Number of Agricultural Households with Plan to Use Improved Seeds Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use Improved Seeds Next Year		Agricultural Households With NO Plan to use Improved Seeds Next Year		Total
	Number	%	Number	%	
Tunduru	6,578	14	40,320	86	46,898
Songea Rural	8,753	28	22,019	72	30,772
Mbinga	23,214	30	54,233	70	77,447
Songea Urban	2,734	39	4,209	61	6,943
Namtumbo	6,764	23	22,351	77	29,115
Total	48,043	25	143,132	75	191,175

AGRICULTURE CREDIT

13.1a AGRICULTURE CREDIT: Number of Agriculture Households receiving Credit by sex of household head and District During the 2002/03 Agriculture Year

District	Male		Female		Total
	Number	%	Number	%	
Tunduru	2,992	93	212	7	3,204
Songea Rural	4,149	70	1,813	30	5,962
Mbinga	12,568	91	1,302	9	13,870
Songea Urban	566	78	161	22	727
Namtumbo	12,664	86	2,140	14	14,804
Total	32,939	85	5,628	15	38,567

13.1b AGRICULTURE CREDIT: Number of Households Receiving Credit By Main Source of Credit and District; 2002/03 Agriculture Year

District	Source of Credit								Total
	Family, Friend and Relative	Commercial Bank	Co-operative	Saving & Credit Society	Trader / Trade Store	Private Individual	Religious Organisation / NGO / Project	Other	
Tunduru	609	0	1,244	1,246	105	0	0	0	3,204
Songea Rural	2,621	77	1,137	678	150	380	920	0	5,962
Mbinga	7,228	260	3,550	390	1,693	378	239	132	13,870
Songea Urban	399	0	54	27	165	53	27	0	727
Namtumbo	4,498	72	8,868	73	433	141	650	69	14,804
Total	15,355	408	14,853	2,414	2,547	953	1,836	201	38,567

13.2a AGRICULTURE CREDIT: Number of Households Reporting the Main reasons for Not Using Credit by District During the 2002/03 Agriculture Year

District	Not needed	Not available	Did not want to go into debt	Interest rate/cost too high	Did not know how to get credit	Difficult bureaucracy procedure	Credit granted too late	Other	Don't know about credit	Total
Tunduru	98	14,650	2,479	931	15,586	1,576	104	204	7,960	43,587
Songea Rural	841	6,926	3,345	1,978	6,687	1,746	77	76	3,134	24,810
Mbinga	3,117	19,364	5,403	2,223	20,840	1,279	517	0	10,834	63,577
Songea Urban	246	684	1,137	330	2,077	515	27	81	1,119	6,216
Namtumbo	937	1,445	4,388	3,454	2,153	577	72	145	1,140	14,311
Total	5,238	43,069	16,752	8,916	47,344	5,694	797	506	24,187	152,501

13.2b AGRICULTURE CREDIT: Number of Credits Received by Main Purpose of Credit and District During the 2002/03 Agriculture Year

District	Credit Use								Total Credits
	Labour	Seeds	Fertilizers	Agro-chemicals	Tools / Equipment	Irrigation Structures	Livestock	Other	
Tunduru	507	0	726	2,274	0	0	98	0	3,606
Songea Rural	1,049	611	4,383	454	305	77	227	226	7,331
Mbinga	2,951	634	3,375	4,195	1,699	0	1,435	1,547	15,837
Songea Urban	187	136	512	54	0	0	53	27	971
Namtumbo	2,422	1,484	9,734	214	71	0	0	1,661	15,586
Total Credits	7,117	2,866	18,730	7,191	2,075	77	1,814	3,462	43,331

TREE FARMING AND AGROFORESTRY

14.1 ON FARM TREE PLANTING: Number of Planted Trees By Species and District During the 2002/03**Agriculture Year, Ruvuma Region**

District	Senna Spp	Gravellis	Afzelia Quanzensis	Acacia Spp	Pinus Spp	Eucalyptus Spp	Cyprus Spp	Calophyllum Inophyllum	Melicia excelsa	Casurina Equisetifolia	Terminalia Catapa
Songea Rural	245	341	.	181	1422	352	44	1058	60	.	.
Mbinga	1046	5220	.	1342	900	58739	9865	40	10	.	59
Songea Urban	164	55	5	760	3	7638	322	3230	61	16	25
Namtumbo	1195	60	20	.	.	114	130	.	35	.	.
Total	2650	5676	25	2283	2325	66843	10361	4328	166	16	84
%	3	6	0	2	2	70	11	5	0	0	0

cont... ON FARM TREE PLANTING: Number of Planted Trees By Species and District During the 2002/03 Agriculture**Year, Ruvuma Region**

District	Terminalia Ivorensis	Leucena Spp	Syzzygium Spp	Azadritachta Spp	Jakaranda Spp	Albizia Spp	Kyaya Spp	Sesbania Spp	Calliandra Spp	Trichilia Spp	Total
Songea Rural	.	71	.	1	10	267	166	.	10	.	4228
Mbinga	50	6	.	13	.	4	.	.	.	11	77305
Songea Urban	.	.	55	2	.	19	.	3	.	.	12358
Namtumbo	.	.	.	113	146	1813
Total	50	77	55	129	156	290	166	3	10	11	95704
%	0	0	0	0	0	0	0	0	0	0	100

14.2 TREE FARMING: Number of Households with planted trees on their land and Number of Trees by Planting Location and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Mostly on Field / Plot Boundaries		Mostly Scattered in Field		Mostly in Plantation / Coppice		Total	
	Number of Households	Number of Trees	Number of Households	Number of Trees	Number of Households	Number of Trees	Number of Households	Number of Trees
Songea Rural	62	1,393	32	687	13	2,148	107	4,228
Mbinga	35	9,505	93	12,643	91	55,157	219	77,305
Songea Urban	74	1,769	38	1,979	16	8,590	128	12,338
Namtumbo	32	904	8	209	5	700	45	1,813
Total	203	13,571	171	15,518	125	66,595	499	95,684

14.3 ON FARM TREE PLANTING: Number of responses by main use of planted trees and District for the 2002/03 agriculture year, Ruvuma Region

District	Main Use						Total
	Planks / Timber	Poles	Charcoal	Fuel for Wood	Shade	Medicinal	
Songea Rural	114	4	0	8	3	2	264
Mbinga	52	31	1	85	120	1	582
Songea Urban	136	2	0	36	15	1	382
Namtumbo	30	0	0	19	8	0	114
Total	332	37	1	148	146	4	1,342

14.4 TREE FARMING: Number of Agriculture Households Classified by Distance to Community Planted Forest (Km) By District During the 2002/03 Agriculture Year, Ruvuma Region

District	Distance to Community Planted Forest (km)						Total
	1-9	1-19	20-29	30-39	40-49	60+	
Tunduru	0	104	0	0	0	0	104
Songea Rural	4,641	1,141	1,607	672	381	606	9,047
Mbinga	7,314	3,892	3,109	2,345	1,559	1,034	19,252
Songea Urban	165	247	275	55	27	0	769
Namtumbo	862	354	502	837	142	72	2,768
Total	12,982	5,738	5,492	3,908	2,109	1,712	31,940
%	41	18	17	12	7	5	100

14.5 ON FARM TREE PLANTING: Number of responses by Second use of planted trees and District for the 2002/03 agriculture year, Ruvuma Region

District	Second Use							Total
	Planks / Timber	Poles	Charcoal	Fuel for Wood	Shade	Medicinal	Other	
Songea Rural	11	5	0	106	8	0	2	132
Mbinga	63	64	5	137	9	1	12	291
Songea Urban	20	10	1	131	19	1	9	191
Namtumbo	8	7	0	19	21	0	2	57
Total	102	86	6	393	57	2	25	671

CROP EXTENSION

15.1 CROP EXTENSION: Number of Agriculture Households Receiving Extension Messages by District During the 2002/03 Agriculture Year, Ruvuma Region

District	Households Receiving Extension		Households Not Receiving Extension		Total Number of Households
	Number	%	Number	%	
	Tunduru	14,048	30	32,849	
Songea Rural	7,223	23	23,549	77	30,772
Mbinga	27,165	35	50,281	65	77,447
Songea Urban	2,805	40	4,138	60	6,943
Namtumbo	15,958	55	13,158	45	29,115
Total	67,199	35	123,975	65	191,175

15.2 CROP EXTENSION: Number of Households By Quality of Extension Services and District During the 2002/03 Agricultural Year, Ruvuma Region

	Very Good		Good		Average		Poor		No Good		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Tunduru	529	4	9,313	66	4,100	29	106	1	0	0	14,048	100
Songea Rural	228	3	5,317	74	1,678	23	0	0	0	0	7,223	100
Mbinga	3,638	14	18,592	69	3,762	14	385	1	525	2	26,901	100
Songea Urban	215	8	2,398	85	192	7	0	0	0	0	2,805	100
Namtumbo	2,581	16	10,349	65	2,235	14	577	4	143	1	15,886	100
Total	7,192	11	45,969	69	11,967	18	1,068	2	668	1	66,864	100

15.3 EXTENSION MESSAGES: Number of Agriculture Households By Source of Crop Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Source of Crop Extension													
	Government		NGO / Development Project		Cooperative		Large Scale Farm		Other		Not applicable		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Tunduru	13,146	94	213	2	98	1	291	2	300	2	0	0	14,048	100
Songea Rural	6,696	93	299	4	153	2	76	1	0	0	0	0	7,223	100
Mbinga	22,524	83	780	3	767	3	1,695	6	480	2	790	3	27,037	100
Songea Urban	2,618	93	0	0	27	1	0	0	160	6	0	0	2,805	100
Namtumbo	14,093	88	499	3	861	5	432	3	72	0	0	0	15,958	100
Total	59,075	88	1,791	3	1,907	3	2,495	4	1,013	2	790	1	67,071	100

15.4 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Plant Spacing by Source of Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Spacing						Total	Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable			
Tunduru	11,058	213	98	98	212	0	11,679	46,898	24.9
Songea Rural	5,557	223	153	76	0	0	6,009	30,772	19.5
Mbinga	15,456	396	378	1,431	480	790	18,931	77,447	24.4
Songea Urban	2,482	0	27	0	133	0	2,643	6,943	38.1
Namtumbo	13,230	358	789	72	72	0	14,522	29,115	49.9
Total	47,783	1,189	1,446	1,677	898	790	53,783	191,175	28.1

15.5 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Agrochemicals by Source of Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Use of Agrochemicals						Total	Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable			
Tunduru	8,511	106	203	208	89	104	9,221	46,898	19.7
Songea Rural	1,605	754	76	76	0	0	2,510	30,772	8.2
Mbinga	14,516	772	642	392	0	132	16,454	77,447	21.2
Songea Urban	1,337	0	0	27	0	0	1,364	6,943	19.7
Namtumbo	7,277	72	649	72	0	0	8,070	29,115	27.7
Total	33,246	1,703	1,569	776	89	236	37,619	191,175	19.7

15.6 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Erosion Control by Source of Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Erosion Control						Total	Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable			
Tunduru	1,375	0	0	98	0	0	1,473	46,898	3.1
Songea Rural	1,458	151	0	0	0	76	1,684	30,772	5.5
Mbinga	8,328	252	124	521	131	656	10,014	77,447	12.9
Songea Urban	795	0	0	27	55	0	877	6,943	12.6
Namtumbo	5,332	72	72	72	0	145	5,692	29,115	19.6
Total	17,287	475	196	719	186	877	19,741	191,175	10.3

15.7 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Organic Fertilizer Use by Source of Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Organic Fertilizer Use							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Tunduru	3,790	0	203	104	0	0	4,097	46,898	9
Songea Rural	3,428	831	0	0	0	0	4,259	30,772	14
Mbinga	17,833	513	775	791	131	128	20,172	77,447	26
Songea Urban	1,552	55	0	0	137	0	1,744	6,943	25
Namtumbo	8,694	72	72	360	0	142	9,341	29,115	32
Total	35,298	1,471	1,050	1,256	268	270	39,612	191,175	21

15.8 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Inorganic Fertilizer Use by Source of Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Inorganic Fertilizer Use							Total Number of Households	% of total number of households
	Government	NGO / Development	Cooperative	Large Scale	Other	Not applicable	Total		
Tunduru	7,873	213	0	210	0	0	8,296	46,898	18
Songea Rural	4,269	754	151	77	0	76	5,327	30,772	17
Mbinga	11,851	265	630	790	0	260	13,796	77,447	18
Songea Urban	2,014	27	0	0	27	0	2,069	6,943	30
Namtumbo	11,354	505	2,448	0	142	0	14,448	29,115	50
Total	37,362	1,763	3,229	1,076	170	336	43,936	191,175	23

15.9 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Improved Seeds by Source of Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Use of Improved Seed							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Tunduru	3,466	213	0	0	0	0	3,678	46,898	8
Songea Rural	3,500	601	153	153	0	0	4,407	30,772	14
Mbinga	11,574	132	373	0	0	265	12,344	77,447	16
Songea Urban	1,828	0	0	55	82	0	1,965	6,943	28
Namtumbo	9,270	789	575	216	72	0	10,921	29,115	38
Total	29,638	1,735	1,101	423	154	265	33,316	191,175	17

15.10 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Mechanization/LST by Source of Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Mechanisation / LST						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Not applicable	Total		
Tunduru	723	104	0	106	0	934	46,898	2
Songea Rural	308	153	0	76	0	537	30,772	2
Mbinga	1,022	0	0	0	643	1,665	77,447	2
Songea Urban	27	0	0	0	0	27	6,943	0
Namtumbo	4,467	0	72	0	145	4,683	29,115	16
Total	6,547	257	72	182	788	7,846	191,175	4

15.11 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Irrigation Technology by Source of Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Irrigation Technology							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Tunduru	2,952	0	0	89	0	105	3,146	46,898	7
Songea Rural	1,987	0	0	0	0	0	1,987	30,772	6
Mbinga	4,695	128	124	124	131	529	5,732	77,447	7
Songea Urban	1,172	0	0	0	110	0	1,281	6,943	18
Namtumbo	7,421	72	0	287	0	0	7,780	29,115	27
Total	18,226	200	124	501	241	634	19,926	191,175	10

15.12 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Crop Storage by Source of Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Crop Storage							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Tunduru	5,500	0	0	0	212	0	5,712	46,898	12
Songea Rural	2,967	151	0	76	0	0	3,194	30,772	10
Mbinga	9,626	128	124	260	260	917	11,315	77,447	15
Songea Urban	1,823	0	0	0	192	27	2,043	6,943	29
Namtumbo	8,993	145	215	0	71	0	9,424	29,115	32
Total	28,910	424	339	335	735	945	31,688	191,175	17

15.13 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Vermin Control by Source of Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Vermin Control						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Other	Not applicable	Total		
Tunduru	1,155	0	0	0	105	0	46,898	0.00
Songea Rural	1,760	227	0	0	0	0	30,772	0.00
Mbinga	5,971	0	124	128	0	657	77,447	0.85
Songea Urban	876	0	0	0	55	0	6,943	0.00
Namtumbo	7,200	72	215	288	71	69	29,115	0.24
Total	16,962	298	340	416	231	726	191,175	0.38

15.14 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Agro-processing by Source of Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Agro-progressing							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Tunduru	3,806	0	98	0	0	0	3,905	46,898	8
Songea Rural	1,683	152	0	0	0	0	1,835	30,772	6
Mbinga	4,578	0	385	260	131	917	6,272	77,447	8
Songea Urban	814	0	0	0	247	27	1,089	6,943	16
Namtumbo	6,905	72	144	72	0	0	7,193	29,115	25
Total	17,787	224	628	332	379	945	20,294	191,175	11

15.15 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Agro-processing by Source of Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Agro-forestry						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Other	Not applicable	Total		
Tunduru	312	0	0	0	0	312	46,898	1
Songea Rural	999	149	0	0	0	1,148	30,772	4
Mbinga	5,595	256	124	260	397	6,632	77,447	9
Songea Urban	653	82	0	27	0	762	6,943	11
Namtumbo	6,331	215	0	0	0	6,546	29,115	22
Total	13,889	702	124	287	397	15,400	191,175	8

15.16 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Bee keeping by Source of Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Beekeeping						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Other	Not applicable	Total		
Tunduru	105	0	0	0	0	105	46,898	0
Songea Rural	308	0	0	0	0	308	30,772	1
Mbinga	785	256	0	0	265	1,306	77,447	2
Songea Urban	191	165	27	27	0	411	6,943	6
Namtumbo	5,331	359	0	0	0	5,690	29,115	20
Total	6,720	780	27	27	265	7,819	191,175	4

15.17 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Fish Farming by Source of Extension Messages and District During the 2002/03 Agriculture Year, Ruvuma Region

District	Fish Farming							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Tunduru	0	0	0	0	0	0	0	46898	0
Songea Rural	536	153	74	0	0	0	763	30772	2
Mbinga	1,313	128	0	0	0	265	1,706	77447	2
Songea Urban	301	302	0	0	27	0	631	6943	9
Namtumbo	5,268	216	0	69	73	72	5,698	29115	20
Total	7,419	798	74	69	100	336	8,797	191175	5

15.18 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 1) During the 2002/03 Agriculture Year, Ruvuma Region

District	Spacing			Use of Agrochemicals			Erosion Control		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Tunduru	11,679	11,581	99	9,117	6,259	69	1,369	0	0
Songea Rural	5,932	5,702	96	2,433	1,674	69	1,608	1,610	100
Mbinga	18,008	17,888	99	15,804	13,718	87	9,355	6,234	67
Songea Urban	2,670	2,507	94	1,419	1,118	79	877	713	81
Namtumbo	14,522	14,235	98	7,784	2,885	37	5,185	2,162	42
Total	52,811	51,912	98	36,557	25,653	70	18,394	10,719	58

15.19 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 2) During the 2002/03 Agriculture Year, Ruvuma Region

District	Organic Fertilizer Use			Inorganic Fertilizer Use			Use of Improved Seed		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Tunduru	3,780	1,359	36	8,189	5,757	70	3,678	1,356	37
Songea Rural	3,800	3,193	84	5,480	5,252	96	4,407	2,652	60
Mbinga	20,036	17,308	86	13,381	10,882	81	11,946	6,071	51
Songea Urban	1,689	1,444	85	2,124	2,015	95	1,965	1,503	76
Namtumbo	8,479	3,167	37	14,594	14,233	98	10,994	5,398	49
Total	37,782	26,472	70	43,768	38,140	87	32,991	16,980	51

15.20 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 3) During the 2002/03 Agriculture Year, Ruvuma Region

District	Mechanisation / LST			Irrigation Technology			Crop Storage		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Tunduru	410	0	0	2,619	822	31	5,712	4,759	83
Songea Rural	613	0	0	1,987	1,068	54	3,194	2,965	93
Mbinga	388	1,171	302	4,155	3,374	81	10,778	10,657	99
Songea Urban	27	27	100	1,281	1,118	87	2,070	1,907	92
Namtumbo	4,393	216	5	7,780	3,892	50	9,208	8,850	96
Total	5,832	1,415	24	17,821	10,275	58	30,963	29,139	94

15.21 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 4) During the 2002/03 Agriculture Year, Ruvuma Region

District	Vermin Control			Agro-progressing			Agro-forestry		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Tunduru	1,155	1,045	90	3,691	3,697	100	104	0	0
Songea Rural	1,987	1,759	89	1,835	1,610	88	1,148	1,148	100
Mbinga	5,055	5,839	115	5,865	6,387	109	6,231	4,141	66
Songea Urban	960		0	1,062	1,062	100	790	653	83
Namtumbo	7,842	6,843	87	7,051	6,325	90	6,546	2,006	31
Total	16,999	16,254	96	19,504	19,080	98	14,819	7,947	54

15.22 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 5) During the 2002/03 Agriculture Year, Ruvuma Region

District	Beekeeping			Fish Farming		
	Received	Adopted	%	Received	Adopted	%
Tunduru	0	0	0	0	0	0
Songea Rural	308	0	0	610	302	50
Mbinga	1,041	909	87	1,309	649	50
Songea Urban	357	0	0	658	191	29
Namtumbo	5,546	506	9	5,554	866	16
Total	7,252	1,415	20	8,131	2,009	25

ANIMAL CONTRIBUTION TO CROP PRODUCTION

17.1 ANIMAL CONTRIBUTION TO CROP PRODUCTION: Number of agriculture households using draft animal to cultivate land by District during 2002/03 agriculture year, Ruvuma Region

	Households Using Draft Animals		Household Not Using Draft Animals		Total households
	Number	%	Number	%	
Tunduru	0	0	46,898	100	46,898
Songea Rural	76	0	30,697	100	30,772
Mbinga	0	0	77,447	100	77,447
Songea Urban	27	0	6,915	100	6,943
Namtumbo	69	0	29,046	100	29,115
Total	172	0	191,003	100	191,175

17.2 ANIMAL CONTRIBUTION TO CROP PRODUCTION: Type of Draft By Number Owned, Used and Area Cultivated (Hectares) By District during 2002/03 agriculture year, Ruvuma Region

District	Type of Craft					
	Oxen			Bulls		
	Number Owned	Number Used	Area Cultivated (Hectares)	Number Owned	Number Used	Area Cultivated (Hectares)
Songea Rural
Songea Urban	55	55	33	.	.	.
Namtumbo	757	.
Total	55	55	33	.	757	.

cont... ANIMAL CONTRIBUTION TO CROP PRODUCTION: Type of Draft By Number Owned, Used and Area Cultivated (Hectares) By District during 2002/03 agriculture year, Ruvuma Region

District	Type of Craft					
	Cows			Total		
	Number Owned	Number Used	Area Cultivated (Hectares)	Number Owned	Number Used	Area Cultivated (Hectares)
Songea Rural	227	151	0	227	151	0
Songea Urban	.	.	.	55	55	33
Namtumbo	757	.
Total	227	151	0	282	963	33

17.3 ANIMAL CONTRIBUTION TO CROPS: Number of Crop Growing households using organic fertilizer by District during 2002/03 agriculture year, Ruvuma Region

District	Did you apply organic fertilizer during 2002/03?					
	Using Organic Fertilizer		Not Using Organic Fertilizer		Total	
	Number	%	Number	%	Number	%
Tunduru	3,668	7	43,230	32	46,898	25
Songea Rural	8,799	16	20,903	16	29,701	16
Mbinga	35,657	65	41,299	31	76,956	41
Songea Urban	1,878	3	5,038	4	6,915	4
Namtumbo	4,532	8	23,792	18	28,325	15
Total	54,534	100	134,261	100	188,795	100

**17.4 ANIMAL CONTRIBUTION TO CROPS: Area of farm yard manure and Compost
Application by District during 2002/03 agriculture year, Ruvuma Region**

District	Farm Yard Manure Area Applied		Compost Area Applied		Total Area applied with Organic Fertilizers	
	Area (Ha)	%	Area (Ha)	%	Area (Ha)	%
Tunduru	1,439	6	56	5	1,495	6
Songea Rural	1,842	8	117	10	1,959	8
Mbinga	17,255	78	835	74	18,089	77
Songea Urban	585	3	17	2	602	3
Namtumbo	1,108	5	99	9	1,207	5
Total	22,227	100	1,124	100	23,351	100

CATTLE PRODUCTION

18.1 CATTLE PRODUCTION: Total Number Households rearing Cattle by District during 2002/03 agriculture year, Ruvuma Region

District	Households Rearing Cattle		Households Not Rearing Cattle		Total Agriculture households	Total livestock keeping households
	Number	%	Number	%		
Tunduru	501	1	46,397	99	46,898	5,276
Songea Rural	2,269	7	28,503	93	30,772	8,578
Mbinga	12,325	16	65,122	84	77,447	25,335
Songea Urban	734	11	6,209	89	6,943	1,799
Namtumbo	1,008	3	28,107	97	29,115	8,567
Total	16,837	9	174,338	91	191,175	49,556

18.2 CATTLE PRODUCTION: Number of Cattle By Type and District as of 1st October, 2003

District	Indigenous			Improved Beef			Improved Dairy			Total Cattle		
	Number of Households	Number of Cattle	%	Number of Households	Number of Cattle	%	Number of Households	Number of Cattle	%	Number of Households	Number of Cattle	%
Tunduru	205	3,536	87.5	0	.	0.00	296	504	12.5	501	4,040	3.3
Songea Rural	1,293	7,853	70.3	153	153	0.00	1,204	3,157	0.0	2,269	11,164	9.2
Mbinga	10,797	93,097	92.3	0	.	0.00	2,575	7,810	7.7	12,325	100,907	83.3
Songea Urban	325	894	39.7	27	27	0.00	462	1,329	59.1	734	2,250	1.9
Namtumbo	289	504	17.9	0	.	0.00	864	2,311	82.1	1,008	2,815	2.3
Total	12,909	105,884	87.4	181	181	0.15	5,401	15,111	12.5	16,837	121,175	100.0

18.3 CATTLE PRODUCTION: Number of Households Rearing Cattle, Head of Cattle and Average Head per Household by Herd Size as of 1st October, 2003

Herd Size	Cattle Rearing Households		Heads of Cattle		Average Number Per Household
	Number	%	Number	%	
1-5	15,088	90	36,610	30	2
6-10	1,009	6	7,464	6	7
11-15	297	2	3,667	3	12
16-20	130	1	2,076	2	16
21-30	107	1	2,453	2	23
31-40	77	0	2,539	2	33
151+	129	1	66,366	55	513
Total	16,837	100	121,175	100	7

18.4 CATTLE PRODUCTION: Number of Cattle by Category and Type of Cattle; on 1st October 2003

Category of Cattle	Indigenous Cattle		Improved Beef Cattle		Improved Dairy Cattle		Total	
	Number	%	Number	%	Number	%	Number	%
Bulls	6,792	78.3	27	0.3	1,853	21.4	8,673	7.2
Cows	18,705	76.5	76	0.3	5,658	23.2	24,440	20.2
Steers	187	71.2	.	0.0	76	0.0	263	0.2
Heifers	70,178	95.8	.	0.0	3,077	4.2	73,256	60.5
Male Calves	5,362	68.3	77	1.0	2,414	30.7	7,853	6.5
Female Calves	4,658	69.6	.	0.0	2,033	30.4	6,691	5.5
Total	105,884	87.4	181	0.1	15,111	12.5	121,175	100.0

18.5 CATTLE PRODUCTION: Number of Indigenous Cattle By Category and District as on 1st October, 2003

District	Category - Indigenous						
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	Total
Tunduru	312	1,879	.	107	632	607	3,536
Songea Rural	1,611	2,831	.	1,815	909	687	7,853
Mbinga	4,789	13,508	132	67,922	3,643	3,102	93,097
Songea Urban	80	272	55	190	107	191	894
Namtumbo	.	216	.	144	72	72	504
Total	6,792	18,705	187	70,178	5,362	4,658	105,884

18.6 CATTLE PRODUCTION: Number of Improved Beef Cattle By Category and District as on 1st October, 2003

District	Category - Improved Beef Cattle						
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	Total
Tunduru
Songea Rural	.	76	.	.	77	.	153
Mbinga
Songea Urban	27	27
Namtumbo
Total	27	76	.	.	77	.	181

18.7 CATTLE PRODUCTION: Number of Improved Dairy Cattle By Category and District as on 1st October, 2003

District	Category - Improved Dairy Cattle						Total
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	
Tunduru	.	207	.	89	104	103	504
Songea Rural	299	1,201	76	380	747	455	3,157
Mbinga	874	2,924	.	1,948	1,022	1,043	7,810
Songea Urban	245	459	.	301	107	216	1,329
Namtumbo	435	866	.	360	434	216	2,311
Total	1,853	5,658	76	3,077	2,414	2,033	15,111

18.8 CATTLE PRODUCTION: Number of Cattle By Category and District as on 1st October, 2003

District	Total Cattle						Total
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	
Tunduru	312	2,086	.	195	736	710	4,040
Songea Rural	1,910	4,109	76	2,195	1,733	1,142	11,164
Mbinga	5,663	16,432	132	69,870	4,664	4,145	100,907
Songea Urban	353	731	55	491	214	407	2,250
Namtumbo	435	1,082	.	504	505	288	2,815
Total	8,673	24,440	263	73,256	7,853	6,691	121,175

GOATS PRODUCTION

19.1 GOAT PRODUCTION: Total Number of Goats by Type and District as on 1st October, 2003

District	Indigenous			Improved for Meat			Improved Dairy			Total Goat		
	Number of Households	Number of Goats	%	Number of Households	Number of Goats	%	Number of Households	Number of Goats	%	Number of Households	Number of Goats	%
Tunduru	6,145	42,927	98.6	104	622	1.4	0	.	0.0	6,145	43,548	14.1
Songea Rural	13,477	57,045	93.8	229	1,221	0.0	460	2,524	4.2	13,477	60,790	19.6
Mbinga	32,782	121,530	99.2	394	527	0.0	250	508	0.4	32,782	122,564	39.6
Songea Urban	2,428	9,720	96.8	81	108	1.1	81	216	2.1	2,455	10,044	3.2
Namtumbo	13,450	71,144	97.9	289	1,006	1.4	286	499	0.7	13,522	72,649	23.5
Total	68,282	302,365	97.7	1,097	3,483	1.1	1,078	3,747	1.2	68,381	309,595	100.0

19.2 GOAT PRODUCTION: Number of Households Rearing Goats by Herd Size on 1st October, 2003

Herd Size	Goat Rearing Households		Head of Goats		Average Number Per Household
	Number	%	Number	%	
1-4	42,519	62	104,318	34	2
5-9	20,673	30	129,592	42	6
10-14	2,948	4	32,845	11	11
15-19	1,435	2	23,169	7	16
20-24	418	1	8,552	3	20
25-29	212	0	5,835	2	27
30-39	176	0	5,285	2	30
Total	68,381	100	309,595	100	5

19.3 Total Number of Goats by Category and Type of Goat as of 1st October, 2003 and District

Category of Goats	Indigenous Goats		Improved Meat Goats		Improved Dairy Goat		Total	
	Number	%	Number	%	Number	%	Number	%
Billy Goat	46,354	97.3	507	1.1	779	1.6	47,640	15.4
Castrated Goat	2,805	77.5	427	0.0	386	0.0	3,617	1.2
She Goat	175,170	99.5	492	0.3	446	0.3	176,108	56.9
Male Kid	34,555	96.3	591	1.6	719	2.0	35,865	11.6
She Kid	43,481	93.8	1,466	3.2	1,417	3.1	46,365	15.0
Total	302,365	97.7	3,483	1.1	3,747	1.2	309,595	100.0

19.4 Total Number of Indigenous Goat by Category and District as on 1st October, 2003

District	Number of Indigenous Goats					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
Tunduru	6,252	422	21,475	6,927	7,851	42,927
Songea Rural	8,826	154	34,332	5,999	7,734	57,045
Mbinga	18,493	1,529	74,987	12,801	13,719	121,530
Songea Urban	1,528	.	5,354	1,035	1,803	9,720
Namtumbo	11,255	701	39,022	7,792	12,374	71,144
Total	46,354	2,805	175,170	34,555	43,481	302,365

19.5 GOAT PRODUCTION: Number of Improved Goat for Meat by Category and District as on 1st October, 2003

District	Number of Improved Meat Goats					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
Tunduru	622	622
Songea Rural	.	.	228	461	533	1,221
Mbinga	.	.	265	131	131	527
Songea Urban	108	108
Namtumbo	507	427	.	.	73	1,006
Total	507	427	492	591	1,466	3,483

19.6 Number of Improved Dairy Goat by Category and District on 1st October, 2003

District	Number of Improved Dairy Goats					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
Tunduru
Songea Rural	537	.	77	692	1,218	2,524
Mbinga	.	386	122	.	.	508
Songea Urban	27	.	108	27	54	216
Namtumbo	215	.	139	.	145	499
Total	779	386	446	719	1,417	3,747

19.7 Total Number of Goats by Category and District on 1st October, 2003

District	Total Goat					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
Tunduru	6,252	422	21,475	6,927	8,472	43,548
Songea Rural	9,362	154	34,636	7,152	9,486	60,790
Mbinga	18,493	1,915	75,373	12,932	13,851	122,564
Songea Urban	1,555	.	5,462	1,062	1,965	10,044
Namtumbo	11,977	1,127	39,161	7,792	12,591	72,649
Total	47,640	3,617	176,108	35,865	46,365	309,595

SHEEP PRODUCTION

20.1 Total Number of Sheep By Breed and on 1st October 2003

Breed	Number of Indigenous		Number of Improved for Mutton		Total Sheep	
	Number	%	Number	%	Number	%
Ram	3,840	100	.	0	3,840	16
Castrated Sheep	179	100	.	0	179	1
She Sheep	14,616	100	.	0	14,616	60
Male Lamb	1,918	67	924	0	2,842	12
She Lamb	2,980	100	.	0	2,980	12
Total	23,534	96	924	4	24,458	100

20.2 Number of Households Raising or Managing Sheep by District on 1st October, 2003

District	Households Raising Sheep		Households Not Raising Sheep		Number of Agricultural Households	Total Livestock keeping Households
	Number	%	Number	%		
Tunduru	1,446	3	45,452	97	46,898	5,276
Songea Rural	1,135	4	29,637	96	30,772	8,578
Mbinga	4,438	6	73,008	94	77,447	25,335
Songea Urban	82	1	6,860	99	6,943	1,799
Namtumbo	288	1	28,827	99	29,115	8,567
Total	7,390	4	183,785	96	191,175	49,556

20.3 Number of Sheep by Type of Sheep and District as 1st October, 2002/03

District	Number of Indigenous		Number of Improved for Mutton		Total Sheep	
	Number	%	Number	%	Number	%
Tunduru	5,671	100	.	0	5,671	23
Songea Rural	4,070	100	.	0	4,070	17
Mbinga	12,148	93	924	7	13,073	53
Songea Urban	275	100	.	0	275	1
Namtumbo	1,371	100	.	0	1,371	6
Total	23,534	96	924	4	24,458	100

20.4 Number of Households and Heads of Sheep by Herd Size on 1st October 2003

Herd Size	Number of Household	%	Number of Sheep	%	Average Number Per Household
1-4	5,621	77	13,430	55	2
5-9	1,506	21	9,705	40	6
10-14	132	2	1,323	5	10
Total	7,258	100	24,458	100	3

20.5 Average Number of Sheep by Type of Sheep and District on 1st October 2003, Ruvuma Region

District	Number of Indigenous		Number of Improved for Mutton		Total Sheep	
	Number of Households	Average	Number of Households	Average	Number of Households	Average
Tunduru	1,446	4	0	.	1,446	4
Songea Rural	1,135	4	0	.	1,135	4
Mbinga	4,176	3	263	4	4,307	3
Songea Urban	82	3	0	.	82	3
Namtumbo	288	5	0	.	288	5
Total	7,128	3	263	4	7,258	3

20.6 Total Number of Indigenous Sheep by Sheep Type and District on 1st October 2003

District	Number of Indigenous Sheep					
	Ram	Castrated Sheep	She Sheep	Male Lamb	She Lamb	Total
Tunduru	799	.	3,301	628	943	5,671
Songea Rural	830	.	2,639	303	299	4,070
Mbinga	1,969	124	7,718	915	1,421	12,148
Songea Urban	27	55	165	.	27	275
Namtumbo	216	.	794	72	289	1,371
Total	3,840	179	14,616	1,918	2,980	23,534

20.7 Total Number of Improved Mutton Sheep by Type and District on 1st October 2003

District	Number of Improved for Mutton					
	Ram	Castrated Sheep	She Sheep	Male Lamb	She Lamb	Total
Tunduru
Songea Rural
Mbinga	.	.	.	924	.	924
Songea Urban
Namtumbo
Total	.	.	.	924	.	924

20.8 Total Number of Sheep by Sheep Type and District on 1st October 2003

District	Total Sheep					
	Ram	Castrated Sheep	She Sheep	Male Lamb	She Lamb	Total
Tunduru	799	.	3,301	628	943	5,671
Songea Rural	830	.	2,639	303	299	4,070
Mbinga	1,969	124	7,718	1,840	1,421	13,073
Songea Urban	27	55	165	.	27	275
Namtumbo	216	.	794	72	289	1,371
Total	3,840	179	14,616	2,842	2,980	24,458

PIGS PRODUCTION

21.1 Number of Households and Pigs by Herd Size on 1st October 2003

Herd Size	Pig Rearing Households		Heads of Pigs		Average Number Per Household
	Number	%	Number	%	
1-4	45,332	86	80,159	59	2
5-9	5,941	11	37,676	28	6
10-14	1,262	2	13,447	10	11
15-19	211	0	3,669	3	17
Total	52,746	100	134,951	100	3

21.2 Number of Households and Pigs by District on 1st October 2003

District	Number of Household	Number of Pig	Average Number Per Household
Mbinga	40,973	102,373	2
Songea Rural	8,397	20,763	2
Namtumbo	2,439	6,909	3
Songea Urban	849	3,308	4
Tunduru	89	1,598	18
Total	52,746	134,951	3

21.3 Number of Pigs by Type and District on 1st October, 2003

District	Boar	Castrated Male	Sow / Gilt	Male Piglet	She Piglet	Total
Tunduru	89	.	621	355	533	1,598
Songea Rural	2,677	2,217	7,630	2,596	5,642	20,763
Mbinga	15,232	5,861	39,488	16,512	25,280	102,373
Songea Urban	899	218	901	494	796	3,308
Namtumbo	1,006	576	3,450	650	1,228	6,909
Total	19,903	8,872	52,090	20,607	33,479	134,951

LIVESTOCK PESTS AND PARASITE CONTROL

22.1 PESTS AND PARASITE: Number of Livestock Rearing households deworming Livestock by District during 2002/03 Agricultural Year

District	Deworming Livestock		Not Deworming Livestock		Total
	Number of Households	%	Number of Households	%	
Tunduru	1,310	26	3,756	74	5,066
Songea Rura	4,495	52	4,082	48	8,578
Mbinga	11,855	47	13,349	53	25,203
Songea Urba	820	49	845	51	1,664
Namtumbo	2,666	31	5,902	69	8,567
Total	21,145	43	27,933	57	49,078

22.2 PESTS AND PARASITE: Number of Livestock Rearing Households that dewormed Livestock by type of Livestock and District during the 2002/03 Agricultural Year

District	Goats		Cattle		Sheep		Pigs	
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Tunduru	826	17	404	4	396	18	193	2
Songea Rura	1,221	26	2,434	22	381	18	2,444	20
Mbinga	1,674	35	6,046	55	1,028	47	8,248	67
Songea Urba	329	7	354	3	82	4	438	4
Namtumbo	719	15	1,804	16	287	13	1,008	8
Total	4,770	100	11,042	100	2,175	100	12,331	100

22.3 LIVESTOCK PESTS AND PARASITE CONTROL: Number and Percent of agricultural households reporting to have encountered tick problems during 2002/03 Agriculture Year by District.

District	Ticks Problems		No Ticks Problems		Total
	Number of Households	%	Number of Households	%	
Tunduru	906	19	3,845	81	4,751
Songea Rura	2,814	33	5,611	67	8,425
Mbinga	9,358	39	14,594	61	23,952
Songea Urba	302	20.9	1,146	79	1,448
Namtumbo	1,661	21.1	6,201	79	7,863
Total	15,041	32	31,397	68	46,438

22.4 LIVESTOCK PESTS AND PARASITE CONTROL: Number of Livestock Rearing Households by Methods of Ticks Control Use and District During the 2002/03 Agricultural Year

District	Method of Tick Control										Total
	None		Spraying		Dipping		Smearing		Other		
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	
Tunduru	510	56	194	21	98	11	103	11	0	0	906
Songea Rura	917	33	1,209	43	153	5	0	0	536	19	2,814
Mbinga	2,212	24	4,156	44	789	8	132	1	2,069	22	9,358
Songea Urba	55	18	220	73	0	0	0	0	27	9	302
Namtumbo	723	44	649	39	0	0	0	0	289	17	1,661
Total	4,417	29	6,428	43	1,041	7	235	2	2,921	19	15,041

22.5 LIVESTOCK PESTS AND PARASITE CONTROL: Number and Percent of agricultural households reporting to have encountered Tsetse Flies problems during 2002/03 Agriculture Year by District

District	Tsetse Flies Problems		No Tsetse Flies Problems		Total
	Number of Households	%	Number of Households	%	
Tunduru	1,023	20	4,042	80	5,066
Songea Rural	1,220	14	7,358	86	8,578
Mbinga	3,350	14	20,327	86	23,677
Songea Urban	110	7	1,393	93	1,503
Namtumbo	1,230	15	6,848	85	8,078
Total	6,933	15	39,968	85	46,902

22.6 LIVESTOCK PESTS AND PARASITE CONTROL: Number of Livestock Rearing Households by Methods of Tsetse flies Control Use and District During the 2002/03 Agricultural Year

District	Method of Tsetse Flies Control								Total
	None		Spray		Dipping		Trapping		
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	
Tunduru	611	60	308	30	0	0	104	10	1,023
Songea Rural	764	63	456	37	0	0	0	0	1,220
Mbinga	2,303	69	916	27	132	4	0	0	3,350
Songea Urban	27	25	82	75	0	0	0	0	110
Namtumbo	868	71	362	29	0	0	0	0	1,230
Total	4,574	66	2,124	31	132	2	104	1	6,933

OTHER LIVESTOCK

23a OTHER LIVESTOCK: Total Number of Other Livestock by Type on 1st October 2003

Type	Chicken		Others	
	Number	%	Type	Number
Indigenous	1,536,330	99	Ducks	38,878
Layer	6,037	0	Turkeys	868
Broiler	13,250	1	Rabbits	42,163
.	.	.	Donkeys	4,600
.	.	.	Horse	0
.	.	.	Other	17,025
Total	1,555,617	100		103,534

23b OTHER LIVESTOCK: Number of Chicken by Category of Chicken and District on 1st October 2003

District	Number of Chicken			Total Number of Chicken
	Indigenous Chicken	Layer	Broiler	
Tunduru	256,689	.	640	257,329
Songea Rural	274,591	.	5,318	279,909
Mbinga	644,439	2,749	646	647,834
Songea Urban	60,398	2,499	2,884	65,782
Namtumbo	300,212	788	3,762	304,763
Total	1,536,330	6,037	13,250	1,555,617

23c Head Number of Other Livestock by Type of Livestock and District

District	Type of Livestock				
	Ducks	Turkeys	Rabbits	Donkeys	Other
Tunduru	15,865	.	984	984	14,460
Songea Rural	3,422	689	2,963	.	.
Mbinga	10,426	124	31,130	3,616	1,580
Songea Urban	2,970	55	2,472	.	408
Namtumbo	6,195	.	4,614	.	576
Total	38,878	868	42,163	4,600	17,025

23d OTHER LIVESTOCK: Total Number of Households and Chicken Raised by Flock Size as of 1st October 2003

Flock Size	Chicken Rearing Households		Number of Chicken	Average Chicken per Household
	Number	%		
1 - 4	36,278	26	96,787	3
5 - 9	40,716	29	268,983	7
10 - 19	41,041	29	546,003	13
20 - 29	12,834	9	287,289	22
30 - 39	4,822	3	156,927	33
40 - 49	1,490	1	66,756	45
50 - 99	2,103	2	132,872	63
Total	139,284	100	1,555,617	11

23e LIVESTOCK/POULTRY POPULATION TREND

Type of Livestock/Poultry	1995	1999	2003
Cattle	75,027	79,969	121,175
Improved Cattle	1,325	3,738	15,292
Goats	348,509	537,843	309,595
Sheep	41,890	49,801	24,458
Pigs	89,600	182,347	134,951
Indigenous Chickens	1,091,260	1,757,385	1,536,330
Layers	-	11,709	6,037
Broilers	974	30,064	13,250
Total Chickens	1,092,234	1,799,158	1,555,617

FISH FARMING

28.1 FISH FARMING: Number of Agricultural Households involved in Fish Farming and District, 2002/03 Agricultural Year

District	Agricultural Households Doing Fish Farming		Agricultural Households NOT Doing Fish Farming		Total
	Number	%	Number	%	
Tunduru	298	0.6	46,600	99.4	46,898
Songea Rural	1,294	4.2	29,479	95.8	30,772
Mbinga	910	1.2	76,537	98.8	77,447
Songea Urban	601	8.7	6,342	91.3	6,943
Namtumbo	933	3.2	28,182	96.8	29,115
Total	4,035	2.1	187,140	97.9	191,175

28.2 FISH FARMING: Number of Agricultural Households By System of Farming and District during the 2002/03 Agricultural Year

District	Fish Farming System				Total
	Natural Pond	Dug out Pond	Water Rese	Other	
Tunduru	0	298	0	0	298
Songea Rural	77	1,369	0	0	1,446
Mbinga	0	910	132	0	1,042
Songea Urban	0	792	0	27	819
Namtumbo	361	789	0	72	1,222
Total	438	4,158	132	100	4,827

28.3 FISH FARMING: Number of Agricultural Households By Source of Fingerlings and District during the 2002/03 Agricultural Year

District	Source of Fingerling					Total
	Own Pond	Government Institution	NGOs / Project	Neighbour	Other	
	Number	Number	Number	Number	Number	
Tunduru	0	0	89	209	0	298
Songea Rural	77	77	227	1,065	0	1,446
Mbinga	0	0	132	910	0	1,042
Songea Urban	0	137	0	682	0	819
Namtumbo	0	361	0	788	73	1,222
Total	77	575	448	3,654	73	4,827

28.4 FISH FARMING: Number of Agricultural Households By Location of Selling Fish and District during the

District	Neighbor	Trader at Farm	Did not Sell	Other	Total
	Number	Number	Number	Number	Number
Tunduru	0	0	209	89	298
Songea Rural	612	77	684	0	1,372
Mbinga	0	0	918	124	1,042
Songea Urban	435	27	357	0	819
Namtumbo	720	0	641	0	1,361
Total	1,767	104	2,808	213	4,893

28.5 FISH FARMING: Total Number of Fish Harvested by Type and District, 2002/03 Agricultural Year

District	Number of Tilapia	Number of Carp	Number of Others
Tunduru	27,263	0	0
Songea Rural	169,846	2,923	0
Mbinga	49,022	0	5,159
Songea Urban	197,054	439	19,282
Namtumbo	247,863	18,990	20,222
Total	691,048	22,353	44,663

LIVESTOCK EXTENSION

29.1a LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension by District During the 2002/03 Agricultural Year

District	Received Livestock Advice		Did Not Receive Livestock Advice		Total	Total Number of households raising livestock	% receiving advice out of total
	Number	%	Number	%			
Tunduru	3,918	8.4	42,980	91.6	46,898	5,276	74
Songea Rural	5,527	18.0	25,245	82.0	30,772	8,578	64
Mbinga	14,420	18.6	63,027	81.4	77,447	25,335	57
Songea Urban	1,336	19.2	5,606	80.8	6,943	1,799	74
Namtumbo	5,384	18.5	23,731	81.5	29,115	8,567	63
Total	30,585	16.0	160,590	84.0	191,175	49,556	62

29.1b LIVESTOCK EXTENSION SERVICE PROVIDERS: Number of Agricultural Households By Source of Extension Services and District during the 2002/03 Agricultural Year

District	Source of extension advice									
	Government		NGO / Development Project		Co-operative		Large Scale Farmer		Other	
	Number	%	Number	%	Number	%	Number	%	Number	%
Tunduru	3,623	100.0	0	0.0	0	0.0	0	0.0	0	0.0
Songea Rural	5,377	75.0	675	9.4	448	6.2	522	7.3	149	2.1
Mbinga	13,366	80.3	1,832	11.0	395	2.4	781	4.7	263	1.6
Songea Urban	1,282	45.4	515	18.2	432	15.3	350	12.4	247	8.7
Namtumbo	5,167	85.8	429	7.1	71	1.2	214	3.6	143	2.4
Total	28,815	79.4	3,450	9.5	1,346	3.7	1,868	5.1	802	2.2

29.2 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Feeds and Proper Feeding By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Feeds and Proper Feeding				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Large Scale Farmer	Total		
Tunduru	2,276	0	0	2,276	5,276	43.1
Songea Rural	2,130	152	74	2,356	8,578	27.5
Mbinga	7,262	0	129	7,391	25,335	29.2
Songea Urban	682	110	0	791	1,799	44.0
Namtumbo	2,723	0	72	2,796	8,567	32.6
Total	15,073	261	275	15,609	49,556	31.5
%	96.6	1.7	1.8	100		

29.3 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Housing By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Housing						Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Large Scale Farmer	Other(former coding)	Other	Total		
Tunduru	1,847	0	0	0	0	1,847	5,276	35.0
Songea Rural	2,439	227	0	0	0	2,667	8,578	31.1
Mbinga	10,149	128	394	123	0	10,794	25,335	42.6
Songea Urban	677	82	0	0	27	787	1,799	43.7
Namtumbo	3,223	0	72	0	0	3,295	8,567	38.5
Total	18,336	437	465	123	27	19,390	49,556	39.1
%	95	2	2	1	0	100		

29.4 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Proper Milking By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Proper Milking				Total	Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Large Scale Farmer	Other			
Tunduru	202	0	0	0	202	5,276	3.8
Songea Rural	532	76	76	0	684	8,578	8.0
Mbinga	2,311	0	0	0	2,311	25,335	9.1
Songea Urban	245	136	0	27	408	1,799	22.7
Namtumbo	1,298	0	0	0	1,298	8,567	15.1
Total	4,588	212	76	27	4,903	49,556	9.9
%	93.6	4.3	1.5	0.5	100.0		

29.5 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Milk Hygiene By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Milk Hygiene			Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Total		
Tunduru	103	0	103	5,276	2.0
Songea Rural	530	76	605	8,578	7.1
Mbinga	2,047	0	2,047	25,335	8.1
Songea Urban	299	82	381	1,799	21.2
Namtumbo	1,298	0	1,298	8,567	15.1
Total	4,276	158	4,434	49,556	8.9
%	96.4	3.6	100		

29.6 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Disease Control By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Disease Control				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Large scale Farmer	Total		
Tunduru	1,146	0	0	1,146	5,276	22
Songea Rural	3,170	76	0	3,246	8,578	38
Mbinga	9,057	128	129	9,314	25,335	37
Songea Urban	761	110	0	871	1,799	48
Namtumbo	3,736	0	72	3,808	8,567	44
Total	17,871	314	201	18,385	49,556	37
%	97.2	1.7	1.1	100		

29.7 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Herd /Flock Size and Selection By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Herd/Flock Size		Total Number of households raising livestock	% receiving advice out of total
	Government	Total		
Songea Rural	302	302	8,578	4
Mbinga	2,084	2,084	25,335	8
Songea Urban	135	135	1,799	8
Namtumbo	358	358	8,567	4
Total	2,879	2,879	44,280	7
%	100.0	100.0		

29.8 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Pasture Establishment and Selection By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Pasture Establishment and Selection				Total	Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Large Scale Farmer	Other			
Songea Rural	379	0	0	0	379	8,578	4
Mbinga	2,332	128	129	0	2,589	25,335	10
Songea Urban	163	55	0	27	246	1,799	14
Namtumbo	1,649	0	0	0	1,649	8,567	19
Total	4,524	183	129	27	4,863	44,280	11
%	93.0	3.8	2.7	0.6	100		

29.9 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Group Formation and Strengthening By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Group Formation and Strengthening				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Co-operative	Total		
Songea Rural	685	76	76	836	8,578	10
Mbinga	4,944	132	265	5,341	25,335	21
Songea Urban	436	27	0	463	1,799	26
Namtumbo	1,938	72	217	2,227	8,567	26
Total	8,003	308	557	8,868	44,280	20
%	90.2	3.5	6.3	100		

29.10 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Calf Rearing By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Calf Rearing				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Large Scale Farmer	Total		
Tunduru	104	0	0	104	5,276	2
Songea Rural	532	76	0	608	8,578	7
Mbinga	2,325	0	129	2,454	25,335	10
Songea Urban	268	110	0	378	1,799	21
Namtumbo	1,515	0	0	1,515	8,567	18
Total	4,745	186	129	5,059	49,556	10
%	93.8	3.7	2.5	100		

29.11 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Use of Improved Bulls By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Improved Bulls					Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Large Scale Farmer	Other	Total		
Tunduru	203	0	0	0	203	5,276	3.8
Songea Rural	831	76	0	0	907	8,578	10.6
Mbinga	3,636	0	0	0	3,636	25,335	14.4
Songea Urban	216	55	27	27	326	1,799	18.1
Namtumbo	1,798	0	0	0	1,798	8,567	21.0
Total	6,684	131	27	27	6,870	49,556	13.9
%	97.3	1.9	0.4	0.4	100.0		

29.12 LIVESTOCK EXTENSION: Number of Agricultural Households By Quality of Extension Services and District, 2002/03 Agricultural Year

District	Quality of Service										Total
	Very Good		Good		Average		Poor		No Good		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Tunduru	624	17	2,783	75	319	9	0	0	0	0	3,727
Songea Rural	450	8	3,321	61	1,602	29	76	1	0	0	5,449
Mbinga	2,708	18	9,892	65	1,681	11	129	1	787	5	15,197
Songea Urban	355	19	1,038	54	493	26	27	1	0	0	1,914
Namtumbo	710	18	3,008	75	216	5	0	0	71	2	4,005
Total	4,848	16	20,043	66	4,311	14	232	1	858	3	30,292

ACCESS TO INFRASTRUCTURE AND OTHER SERVICES

33.01a Mean Distances from Household Dwellings to Infrastructures and Services by Districts

District	Mean Distance to											
	Secondary Schools	Primary Schools	All weather roads	Feeder Roads	Hospitals	Health Clinics	Regional Capital	Primary Markets	Secondary Market	Tertiary Market	Tarmac Roads	District Capital
Tunduru	18.7	1.5	10.9	3.0	32.0	7.6	288.3	4.5	22.7	43.9	274.1	53.8
Songea Rural	18.0	1.5	3.2	0.5	46.6	8.5	54.2	14.6	44.6	40.8	23.6	54.2
Mbinga	14.9	2.7	8.6	2.5	27.0	6.1	125.0	8.8	34.8	43.3	106.4	47.8
Songea Urban	5.0	4.3	1.3	0.9	10.8	8.3	7.6	5.1	9.1	7.8	4.4	7.8
Namtumbo	15.4	1.3	19.8	3.6	70.5	6.6	79.7	7.6	56.6	62.3	73.4	56.9
Total	16.0	2.1	9.7	2.4	37.4	7.0	142.5	8.4	35.8	44.6	125.5	50.2
Regional Capital	142.5											
Tarmac Roads	125.5											
District Capital	50.2											
Tertiary Market	44.6											
Hospitals	37.4											
Secondary Market	35.8											
Secondary Schools	16.0											
All weather roads	9.7											
Primary Markets	8.4											
Health Clinics	7.0											
Feeder Roads	2.4											
Primary Schools	2.1											

33.01b: Number of Households By Distance to Secondary School by District for 2002/03 agriculture year

District	Distance to Secondary School										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Tunduru	1,401	3.0	2,421	5.2	11,261	24.0	14,773	31.5	17,042	36.3	46,898	18.7
Songea Rural	380	1.2	1,819	5.9	9,718	31.6	10,103	32.8	8,752	28.4	30,772	18.0
Mbinga	3,621	4.7	10,340	13.4	23,756	30.7	23,386	30.2	16,344	21.1	77,447	14.9
Songea Urban	541	7.8	1,377	19.8	3,985	57.4	1,040	15.0	0	0.0	6,943	5.0
Namtumbo	780	2.7	3,694	12.7	9,555	32.8	7,865	27.0	7,222	24.8	29,115	15.4
Total	6,723	3.5	19,651	10.3	58,274	30.5	57,167	29.9	49,360	25.8	191,175	16.0

33.01c: Number of Households By Distance to All Weather Road by District for 2002/03 agriculture year

District	Distance to All Weather Road										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Tunduru	24,121	51.4	2,719	5.8	8,103	17.3	2,560	5.5	9,395	20.0	46,898	10.9
Songea Rural	21,474	69.8	4,876	15.8	2,752	8.9	230	0.7	1,440	4.7	30,772	3.2
Mbinga	29,271	37.8	15,930	20.6	11,907	15.4	11,040	14.3	9,299	12.0	77,447	8.6
Songea Urban	4,425	63.7	1,668	24.0	795	11.4	0	0.0	55	0.8	6,943	1.3
Namtumbo	19,601	67.3	3,076	10.6	714	2.5	1,734	6.0	3,990	13.7	29,115	19.8
Total	98,892	51.7	28,269	14.8	24,271	12.7	15,564	8.1	24,179	12.6	191,175	9.7

33.01d: Number of Households by Distance to Feeder Road by District for 2002/03 agriculture year

District	Distance to Feeder Road										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Tunduru	28,261	60.3	10,812	23.1	6,975	14.9	213	0.5	638	1.4	46,898	3.0
Songea Rural	27,646	89.8	2,131	6.9	919	3.0	0	0.0	77	0.3	30,772	0.5
Mbinga	48,059	62.1	18,317	23.7	7,018	9.1	1,830	2.4	2,223	2.9	77,447	2.5
Songea Urban	5,602	80.7	930	13.4	301	4.3	0	0.0	110	1.6	6,943	0.9
Namtumbo	24,395	83.8	1,855	6.4	701	2.4	1,445	5.0	719	2.5	29,115	3.6
Total	133,962	70.1	34,045	17.8	15,914	8.3	3,488	1.8	3,766	2.0	191,175	2.4

33.01e: Number of Households By Distance to Hospital by District for 2002/03 agriculture year

District	Distance to hospital										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Tunduru	1,040	2.2	1,409	3.0	4,372	9.3	10,625	22.7	29,451	62.8	46,898	32.0
Songea Rural	0	0.0	76	0.2	5,237	17.0	6,869	22.3	18,590	60.4	30,772	46.6
Mbinga	3,060	4.0	5,692	7.3	14,968	19.3	20,386	26.3	33,341	43.1	77,447	27.0
Songea Urban	0	0.0	531	7.6	4,304	62.0	1,807	26.0	302	4.3	6,943	10.8
Namtumbo	72	0.2	0	0.0	144	0.5	574	2.0	28,325	97.3	29,115	70.5
Total	4,172	2.2	7,708	4.0	29,026	15.2	40,261	21.1	110,008	57.5	191,175	37.4

33.01f: Number of Households by Distance to Health Clinic by District for 2002/03 agricultural year

District	Health clinic										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Tunduru	14,108	30.1	6,937	14.8	20,475	43.7	4,547	9.7	831	1.8	46,898	7.6
Songea Rural	4,865	15.8	6,702	21.8	13,943	45.3	3,596	11.7	1,666	5.4	30,772	8.5
Mbinga	9,284	12.0	26,766	34.6	28,584	36.9	10,076	13.0	2,737	3.5	77,447	6.1
Songea Urban	548	7.9	1,482	21.3	3,487	50.2	1,290	18.6	136	2.0	6,943	8.3
Namtumbo	4,591	15.8	8,903	30.6	7,618	26.2	4,237	14.6	3,766	12.9	29,115	6.6
Total	33,396	17.5	50,790	26.6	74,107	38.8	23,745	12.4	9,137	4.8	191,175	7.0

33.01g: Number of Households by distance to Primary School for 2002/03 agriculture year

District	Distance to Primary School										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Tunduru	27,318	58.2	14,200	30.3	5,065	10.8	107	0.2	209	0.4	46,898	1.5
Songea Rural	11,077	36.0	15,770	51.2	3,772	12.3	77	0.3	77	0.2	30,772	1.5
Mbinga	28,312	36.6	38,270	49.4	9,969	12.9	527	0.7	369	0.5	77,447	2.7
Songea Urban	2,421	34.9	2,915	42.0	1,525	22.0	0	0.0	82	1.2	6,943	4.3
Namtumbo	11,929	41.0	14,823	50.9	1,932	6.6	287	1.0	144	0.5	29,115	1.3
Total	81,057	42.4	85,977	45.0	22,263	11.6	997	0.5	881	0.5	191,175	2.1

33.01h: Number of Households by Distance to Regional Capital by District for 2002/03 agriculture year

District	Distance to Regional Capital										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Tunduru	0	0.0	0	0.0	0	0.0	418	0.9	46,480	99.1	46,898	288.3
Songea Rural	76	0.2	0	0.0	228	0.7	5,871	19.1	24,598	79.9	30,772	54.2
Mbinga	748	1.0	0	0.0	380	0.5	110	0.1	76,209	98.4	77,447	125.0
Songea Urban	55	0.8	505	7.3	4,494	64.7	1,834	26.4	55	0.8	6,943	7.6
Namtumbo	216	0.7	0	0.0	0	0.0	72	0.2	28,827	99.0	29,115	79.7
Total	1,095	0.6	505	0.3	5,102	2.7	8,306	4.3	176,168	92.2	191,175	142.5

33.01i: Number of Households by Distance to District Capital by District for 2002/03 agriculture year

District	Distance to District Capital										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Tunduru	0	0.0	994	2.1	2,478	5.3	3,389	7.2	40,037	85.4	46,898	53.8
Songea Rural	77	0.3	0	0.0	152	0.5	5,794	18.8	24,749	80.4	30,772	54.2
Mbinga	110	0.1	1,425	1.8	6,485	8.4	16,056	20.7	53,371	68.9	77,447	47.8
Songea Urban	0	0.0	505	7.3	4,522	65.1	1,834	26.4	82	1.2	6,943	7.8
Namtumbo	0	0.0	1,012	3.5	1,589	5.5	2,316	8.0	24,198	83.1	29,115	56.9
Total	187	0.1	3,936	2.1	15,225	8.0	29,389	15.4	142,438	74.5	191,175	50.2

33.01j: Number of Households by Distance to Tarmac Road by District for 2002/03 agricultural year

District	Tarmac Road										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Tunduru	603	1.3	0	0.0	98	0.2	0	0.0	46,196	98.5	46,898	274.1
Songea Rural	4,078	13.3	2,714	8.8	5,768	18.7	6,203	20.2	12,010	39.0	30,772	23.6
Mbinga	2,060	2.7	264	0.3	380	0.5	393	0.5	74,349	96.0	77,447	106.4
Songea Urban	1,121	16.1	1,570	22.6	3,377	48.6	848	12.2	27	0.4	6,943	4.4
Namtumbo	1,499	5.1	0	0.0	215	0.7	2,163	7.4	25,238	86.7	29,115	73.4
Total	9,362	4.9	4,548	2.4	9,838	5.1	9,607	5.0	157,821	82.6	191,175	125.5

33.01k: Number of Households by Distance to Primary Market by District for 2002/03 agricultural year

District	Primary Market										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Tunduru	21,190	45.2	4,948	10.6	17,147	36.6	3,293	7.0	320	0.7	46,898	4.5
Songea Rural	3,598	11.7	1,658	5.4	7,491	24.3	10,172	33.1	7,853	25.5	30,772	14.6
Mbinga	14,702	19.0	15,512	20.0	26,743	34.5	11,692	15.1	8,799	11.4	77,447	8.8
Songea Urban	788	11.3	1,347	19.4	4,177	60.2	603	8.7	27	0.4	6,943	5.1
Namtumbo	5,887	20.2	8,040	27.6	6,824	23.4	6,349	21.8	2,015	6.9	29,115	7.6
Total	46,164	24.1	31,504	16.5	62,382	32.6	32,110	16.8	19,015	9.9	191,175	8.4

33.01l: Number of Households by Distance to Tertiary Market by District for 2002/03 agricultural year

District	Tertiary Market										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Tunduru	2,828	6.0	568	1.2	2,674	5.7	5,201	11.1	35,625	76.0	46,898	43.9
Songea Rural	1,935	6.3	761	2.5	3,548	11.5	5,791	18.8	18,738	60.9	30,772	40.8
Mbinga	2,963	3.8	1,534	2.0	8,059	10.4	18,425	23.8	46,466	60.0	77,447	43.3
Songea Urban	82	1.2	611	8.8	4,252	61.2	1,916	27.6	82	1.2	6,943	7.8
Namtumbo	788	2.7	1,299	4.5	1,377	4.7	2,388	8.2	23,264	79.9	29,115	62.3
Total	8,597	4.5	4,773	2.5	19,910	10.4	33,721	17.6	124,175	65.0	191,175	44.6

33.01m: Number of Households by Distance to Secondary Market by District for 2002/03 agricultural year

District	Secondary Market										Total number of households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Tunduru	13,925	29.7	213	0.5	1,906	4.1	2,008	4.3	28,846	61.5	46,898	22.7
Songea Rural	2,091	6.8	0	0.0	4,783	15.5	6,788	22.1	17,110	55.6	30,772	44.6
Mbinga	9,061	11.7	699	0.9	2,105	2.7	6,348	8.2	59,234	76.5	77,447	34.8
Songea Urban	1,296	18.7	433	6.2	2,882	41.5	1,619	23.3	713	10.3	6,943	9.1
Namtumbo	1,772	6.1	1,217	4.2	1,303	4.5	1,663	5.7	23,160	79.5	29,115	56.6
Total	28,146	14.7	2,563	1.3	12,979	6.8	18,425	9.6	129,063	67.5	191,175	35.8

**33.19a TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Veterinary Clinic and District, 2002/03
Agricultural Year**

District	Satisfaction of Using Veterinary Clinic												Total number of households
	Very Good		Good		Average		Poor		No good		Not Applicable		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Tunduru	3,141	1	13,881	5	7,107	3	4,854	2	2,671	1	249,734	89	281,387
Songea Rural	1,966	1	11,710	6	5,086	3	1,442	1	1,061	1	163,368	88	184,633
Mbinga	3,252	1	18,515	4	21,961	5	11,930	3	3,548	1	405,472	87	464,680
Songea Urban	327	1	2,404	6	713	2	189	0	54	0	37,969	91	41,657
Namtumbo	1,943	1	13,169	8	10,169	6	862	0	504	0	148,044	85	174,692
Total	10,629	1	59,679	5	45,037	4	19,278	2	7,838	1	1,004,587	88	1,147,049

33.19b TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Extension Centre and District, 2002/03 Agricultural Year

District	Extension Centre										Total number of households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Tunduru	716	6	8,573	68	1,986	16	950	8	308	2	12,532
Songea Rural	222	2	8,364	73	2,137	19	682	6	76	1	11,480
Mbinga	2,348	10	14,881	62	4,831	20	1,568	7	263	1	23,892
Songea Urban	137	7	1,500	75	302	15	53	3	0	0	1,992
Namtumbo	1,436	10	10,938	78	1,652	12	72	1	0	0	14,098
Total	4,859	8	44,255	69	10,909	17	3,325	5	647	1	63,994

33.19c TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Research Station and District, 2002/03 Agricultural Year

District	Research Station										Total number of households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Tunduru	0	0	618	31	408	21	532	27	410	21	1,968
Songea Rural	227	75	0	0	0	0	76	25	0	0	303
Mbinga	648	5	2,430	18	5,367	39	4,272	31	1,134	8	13,851
Songea Urban	0	0	0	0	0	0	54	100	0	0	54
Namtumbo	0	0	1,438	39	2,026	55	72	2	144	4	3,680
Total	875	4	4,486	23	7,800	39	5,006	25	1,689	9	19,856

33.19d TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Plant Protection Lab. and District, 2002/03 Agricultural Year

District	Plant Protection Lab										Total number of households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Tunduru	0	0	213	15	498	35	319	22	410	28	1,441
Songea Rural	758	91	0	0	0	0	76	9	0	0	834
Mbinga	0	0	0	0	264	50	261	50	0	0	525
Songea Urban	54	50	0	0	0	0	55	50	0	0	109
Namtumbo	289	45	0	0	360	55	0	0	0	0	649
Total	1,100	31	213	6	1,122	32	711	20	410	12	3,557

33.19e TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Land Registration Office and District, 2002/03 Agricultural Year

District	Land Registration Office										Total number of households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Tunduru	2,001	27	2,059	28	2,156	29	722	10	410	6	7,348
Songea Rural	77	2	455	15	1,655	53	229	7	682	22	3,098
Mbinga	124	1	808	7	5,868	49	4,413	37	755	6	11,968
Songea Urban	0	0	301	48	274	44	0	0	54	9	628
Namtumbo	0	0	649	15	2,741	63	575	13	360	8	4,325
Total	2,202	8	4,270	16	12,694	46	5,940	22	2,261	8	27,367

33.19f TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Livestock development Centre and District, 2002/03 Agricultural Year

District	Livestock Development Centre										Total number of households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Tunduru	213	5	1,570	39	817	20	956	23	517	13	4,073
Songea Rural	302	67	0	0	76	17	74	16	0	0	452
Mbinga	132	2	396	5	5,366	66	1,155	14	1,134	14	8,184
Songea Urban	54	66	27	34	0	0	0	0	0	0	82
Namtumbo	73	14	0	0	360	71	72	14	0	0	504
Total	773	6	1,994	15	6,619	50	2,257	17	1,651	12	13,294

HOUSEHOLD FACILITIES

Table 34.1 Number of Agriculture Households by Type of Toilet and District During the 2002/03 Agriculture Year

District	Type of toilet				Total number of households
	No Toilet	Flush Toilet	Traditional Pit Latrine	Improved Pit Latrine - hh Owned	
Tunduru	1,036	1,049	44,724	89	46,898
Songea Rural	379	76	29,789	528	30,772
Mbinga	524	2,732	73,108	1,082	77,447
Songea Urban	82	191	6,128	542	6,943
Namtumbo	69	718	27,824	504	29,115
Total	2,090	4,767	181,572	2,745	191,175
%	1.1	2.5	95.0	1.4	100.0

34.2 Number of households reporting average number of rooms and type of Roofing Materials by District, 2002/03 Agricultural Year

District	Average Number of rooms per Household	Iron Sheets	Tiles	Concrete	Asbestos	Grass / Leaves	Grass & Mud	Total number of households
Tunduru	4	7,929	103	320	0	37,054	1,492	46,898
Songea Rural	3	10,485	306	76	0	16,807	3,099	30,772
Mbinga	3	33,950	524	0	0	40,472	2,501	77,447
Songea Urban	3	3,097	0	0	0	3,791	55	6,943
Namtumbo	4	8,485	218	73	73	19,849	419	29,115
Total	3	63,946	1,150	468	73	117,971	7,566	191,175
%		33.4	0.6	0.2	0.0	61.7	4.0	100.0

Table 34.3: Number of Agricultural Households by Type of Owned Assets and District during 2002/03 Agricultural Year

Type of Owned Asset	District										Total	
	Tunduru		Songea Rural		Mbinga		Songea Urban		Namtumbo		Number of Households	%
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%		
Radio	21,532	20	20,803	19	43,081	39	4,740	4	19,003	17	109,159	44.7
Landline phone	404	27	77	5	851	57	165	11	0	0	1,496	0.6
Mobile phone	309	13	302	12	1,224	50	487	20	138	6	2,460	1.0
Iron	8,238	17	8,490	17	22,196	45	2,126	4	8,566	17	49,616	20.3
Wheelbarrow	1,031	13	759	10	4,412	56	757	10	985	12	7,944	3.3
Bicycle											69,706	28.5
Vehicle	207	9	383	17	1,394	61	82	4	218	10	2,284	0.9
Television / Video											1,549	0.6
Total Number of Households	31,721		30,814	13	73,157	30	8,357	3	28,910	12	244,215	100.0

34.4: Number of Agricultural Households by Main Source of Energy Used for Lighting during 2002/03 Agricultural Year

Main Source of Energy for Lighting	District										Total	
	Tunduru		Songea Rural		Mbinga		Songea Urban		Namtumbo		Number of Households	%
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%		
Mains Electricity	104	18.58	0	0	372	66.67	82	14.75	0	0	559	0.3
Solar	98	22.46	0	0	240	54.87	27	6.214	72	16.455	438	0.2
Gas (Biogas)	105	18.56	0	0	388	68.83	0	0.0	71	12.612	564	0.3
Hurricane Lamp	12,077	14.3	16,492	19.52	38,763	45.89	3,046	3.605	14,099	16.69	84,477	44.2
Pressure Lamp	1,053	18.4	909	15.89	2,612	45.65	220	3.84	928	16.223	5,722	3.0
Wick Lamp	32,404	33.4	13,069	13.47	34,589	35.66	3,568	3.678	13,381	13.793	97,011	50.7
Candles	107	22.26	0	0	228	47.65	0	0.0	144	30.099	479	0.3
Firewood	951	49.36	302	15.7	253	13.14	0	0.0	420	21.796	1,926	1.0
Total	46,898	25	30,772	16	77,447	41	6,943	3.6	29,115	15	191,175	100.0

34.5: Number of Agricultural Households by Main Source of Energy Used for Cooking during 2002/03 Agricultural Year

Main Source of Energy for Cooking	District										Total	
	Tunduru		Songea Rural		Mbinga		Songea Urban		Namtumbo		Number of Households	%
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%		
Mains Electricity	0	0.0	153	68.0	0	0.0	0	0.0	72	32.0	225	0.1
Solar	104	14.9	150	21.5	389	55.7	55	7.9	0	0.0	698	0.4
Gas (Biogas)	104	45.9	0	0.0	123	54.1	0	0.0	0	0.0	227	0.1
Bottled Gas	104	33.4	76	24.3	132	42.4	0	0.0	0	0.0	312	0.2
Parraffin / Kerocine	0	0.0	77	99.4	0	0.0	0	0.0	0	0.0	77	0.0
Charcoal	500	14.1	532	15.0	1,894	53.3	487	13.7	143	4.0	3,555	1.9
Firewood	45,987	24.8	29,633	16.0	74,909	40.3	6,401	3.4	28,756	15.5	185,686	97.1
Crop Residues	0	0.0	77	51.4	0	0.0	0	0.0	72	48.6	149	0.1
Livestock Dung	98	56.5	76	43.5	0	0.0	0	0.0	0	0.0	174	0.1
Others		0.0		0.0		0.0		0.0	72	100.0	72	0.0
Total	46,898	24.5	30,772	16.1	77,447	40.5	6,943	3.6	29,115	15.2	191,175	100.0

34.6: Number of Agricultural Households by Main Source of Drinking Water by Season (wet and dry) and District during 2002/03 Agricultural Year

Source	Season	District					Total
		Tunduru	Songea Rural	Mbinga	Songea Urban	Namtumbo	
Piped Water	wet season	10,361	8,842	17,766	734	14,491	52,195
	dry season	10,379	7,851	16,618	680	13,336	48,864
Protected Well	wet season	10,585	10,150	1,140	1,339	5,723	28,937
	Dry season	9,859	10,147	1,399	1,366	5,723	28,493
Protected / Covered Spring	wet season	417	4,391	1,928	273	1,301	8,311
	Dry season	311	4,394	1,796	273	1,301	8,075
Uprotected Well	wet season	15,684	4,257	23,192	3,148	6,591	52,871
	Dry season	15,860	5,171	23,432	3,010	7,458	54,932
Unprotected Spring	wet season	5,982	2,297	24,468	1,340	434	34,520
	Dry season	6,503	2,373	24,602	1,423	434	35,335
Surface Water (Lake / Dam / River / Stream)	wet season	2,272	835	8,218	82	430	11,837
	Dry season	3,986	835	9,125	110	430	14,487
Covered Rainwater Catchment	wet season	0	0	0	27	0	27
	Dry season	0	0	0	27	0	27
Uncovered Rainwater Catchment	wet season	1,597	0	0	0	0	1,597
	Dry season	-	-	-	-	-	-
Water Vendor	wet season	0	0	132	0	0	132
	Dry season	0	0	0	27	72	100
Tanker Truck	wet season	0	0	475	0	0	475
	Dry season	0	0	475	27	216	718
Other	wet season	0	0	128	0	145	273
	dry season	0	0	0	0	145	145
Total Agricultural Households per District		46,898	30,772	77,447	6,943	29,115	191,175

34.7: Proportion of Agricultural Households by Main Source of Drinking Water by Season (wet and dry) and District during 2002/03 Agricultural Year

Source	Season	District					Total
		Tunduru	Songea Rural	Mbinga	Songea Urban	Namtumbo	
Piped Water	wet season	22	29	23	11	50	27
	dry season	22	26	21	10	46	26
Protected Well	wet season	23	33	1	19	20	15
	Dry season	21	33	2	20	20	15
Protected / Covered Spring	wet season	1	14	2	4	4	4
	Dry season	1	14	2	4	4	4
Uprotected Well	wet season	33	14	30	45	23	28
	Dry season	34	17	30	43	26	29
Unprotected Spring	wet season	13	7	32	19	1	18
	Dry season	14	8	32	20	1	18
Surface Water (Lake / Dam / River / Stream)	wet season	5	3	11	1	1	6
	Dry season	8	3	12	2	1	8
Covered Rainwater Catchment	wet season	0	0	0	0	0	0
	Dry season	0	0	0	0	0	0
Uncovered Rainwater Catchment	wet season	3	0	0	0	0	1
	Dry season	-	-	-	-	-	-
Water Vendor	wet season	0	0	0	0	0	0
	Dry season	0	0	0	0	0	0
Tanker Truck	wet season	0	0	1	0	0	0
	Dry season	0	0	1	0	1	0
Other	wet season	0	0	0	0	0	0
	dry season	0	0	0	0	0	0

34.8: Number of Households Reporting Time Spent to and from Main Source of Drinking Water by Season (Wet and Dry) by District for 2002/03 agriculture year

Time Spent to and from Main Source of Drinking Water	Season	District				
		Tunduru	Songea Rural	Mbinga	Songea Urban	Namtumbo
Less than 10	wet season	924	688	5,971	134	4,324
	Dry season	840	610	6,073	159	4,542
10 - 19 Minutes	wet season	13,670	13,505	28,655	2,504	10,619
	Dry season	10,044	12,590	27,873	2,449	9,985
20 - 29 Minutes	wet season	8,057	6,848	16,936	1,365	4,172
	Dry season	8,453	6,847	16,927	1,394	4,098
30 - 39 Minutes	wet season	10,262	5,861	11,269	1,066	2,793
	Dry season	9,884	6,627	11,407	1,093	2,658
40 - 49 Minutes	wet season	4,841	529	2,458	137	867
	Dry season	5,455	529	2,206	110	852
50 - 59 Minutes	wet season	4,825	2,654	6,843	1,273	3,087
	Dry season	3,861	2,350	7,102	1,273	3,230
above one Hour	wet season	4,320	686	5,315	464	3,253
	Dry season	8,361	1,219	5,859	465	3,750

34.9: Proportion of Households Reporting Time Spent to and from Main Source of Drinking Water by Season (Wet and Dry) by District for 2002/03 agriculture year

Time Spent to and from Main Source of Drinking Water	Season	District				
		Tunduru	Songea Rural	Mbinga	Songea Urban	Namtumbo
Less than 10	wet season	2	2	8	2	15
	Dry season	2	2	8	2	16
10 - 19 Minutes	wet season	29	44	37	36	36
	Dry season	21	41	36	35	34
20 - 29 Minutes	wet season	17	22	22	20	14
	Dry season	18	22	22	20	14
30 - 39 Minutes	wet season	22	19	15	15	10
	Dry season	21	22	15	16	9
40 - 49 Minutes	wet season	10	2	3	2	3
	Dry season	12	2	3	2	3
50 - 59 Minutes	wet season	10	9	9	18	11
	Dry season	8	8	9	18	11
above one Hour	wet season	9	2	7	7	11
	Dry season	18	4	8	7	13

34.10: Number of Agricultural Households by Number of Meals the Household Normally Took per Day by District

Number of Meals per Day	District										Total	
	Tunduru		Songea Rural		Mbinga		Songea Urban		Namtumbo		Number of Households	%
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%		
One	318	1	0	0	2,325	3	409	6	553	2	3,605	1.9
Two	7,537	16	12,028	39	35,417	46	1,992	29	6,895	24	63,869	33.4
Three	39,043	83		0	39,440	51	4,542	65	21,598	74	123,291	64.5
Four	0	0	76	0	265	0	0	0	69	0	409	0.2
Total	46,898	100	30,772	100	77,447	100	6,943	100	29,115	100	191,175	100.0

34.11: Number of Households by Number of Days the Household Consumed Meat during the Preceding Week by District

Number of Days	District										Total	
	Tunduru		Songea Rural		Mbinga		Songea Urban		Namtumbo		Number of Households	%
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%		
Not Eaten	26,776	57	8,968	29	20,819	27	1,911	28	7,554	26	66,028	35
One	9,702	21	10,484	34	20,819	27	2,207	32	9,354	32	52,566	27
Two	5,758	12	6,774	22	19,147	25	1,711	25	6,904	24	40,294	21
Three	2,896	6	2,881	9	10,653	14	706	10	3,938	14	21,074	11
Four	1,256	3	531	2	3,714	5	380	5	860	3	6,741	4
Five	210	0	681	2	1,422	2	27	0	361	1	2,702	1
Six	89	0	151	0	241	0	0	0	0	0	480	0
Seven	211	0	302	1	631	1	0	0	144	0	1,289	1
Total	46,898	100	30,772	100	77,447	100	6,943	100	29,115	100	191,175	100

34.12: Number of Households by Number of Days the Household Consumed Fish during the Preceding Week by District

Number of Days	District										Total	
	Tunduru		Songea Rural		Mbinga		Songea Urban		Namtumbo			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Not Eaten	10,069	32	5,326	17	9,519	30	822	3	6,194	19	31,930	17
One	6,863	16	9,520	22	17,299	40	1,798	4	7,892	18	43,373	23
Two	8,167	21	6,768	17	15,283	39	1,499	4	7,344	19	39,061	20
Three	7,166	24	5,243	17	12,406	41	1,301	4	4,082	14	30,198	16
Four	6,150	34	1,965	11	7,432	41	949	5	1,801	10	18,297	10
Five	4,369	34	1,420	11	5,637	43	464	4	1,082	8	12,971	7
Six	1,578	39	229	6	1,914	47	82	2	289	7	4,091	2
Seven	2,536	23	302	3	7,956	71	27	0	432	4	11,254	6
Total	46,898	25	30,772	16	77,447	41	6,943	4	29,115	15	191,175	100

34.13: Number of Households Reporting the Status of Food Satisfaction of the Household during the Preceding Year by District

Status of Food Satisfaction	District										Total	
	Tunduru		Songea Rural		Mbinga		Songea Urban		Namtumbo			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Never	23,878	20	20,206	17	49,669	42	5,223	4	20,562	17	119,538	62.5
Seldom	14,136	29	6,626	14	19,938	41	1,204	2	6,264	13	48,168	25.2
Sometimes	4,044	32	2,808	22	4,367	35	192	2	1,138	9	12,550	6.6
Often	1,762	37	456	10	1,675	35	107	2	791	17	4,790	2.5
Always	3,078	50	677	11	1,797	29	217	4	360	6	6,129	3.2
Total	46,898	25	30,772	16	77,447	41	6,943	4	29,115	15	191,175	100.0

34.14: Number of Households by Type of Roofing Materials and District during the 2002/03 Agricultural Year

Roofing Materials	District										Total	
	Tunduru		Songea Rural		Mbinga		Songea Urban		Namtumbo			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Iron Sheets	7,929	12	10,485	16	33,950	53	3,097	5	8,485	13	63,946	33.4
Tiles	103	9	306	27	524	46	0	0	218	19	1,150	0.6
Concrete	320	68	76	16	0	0	0	0	73	15	468	0.2
Asbestos	0	0	0	0	0	0	0	0	73	100	73	0.0
Grass / Leaves	37,054	31	16,807	14	40,472	34	3,791	3	19,849	17	117,971	61.7
Grass & Mud	1,492	20	3,099	41	2,501	33	55	1	419	6	7,566	4.0
Total	46,898	25	30,772	16	77,447	41	6,943	4	29,115	15	191,175	100.0

34.15: Number of Households by Main Source of Cash Income and District during 2002/03 Agriculture Year

Main Source of Energy for Cooking	District										Total	
	Tunduru		Songea Rural		Mbinga		Songea Urban		Namtumbo			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Sales of Food Crops	19,525	21	22,344	24	29,869	32	3,106	3	19,741	21	94,585	49.5
Sale of Livestock	98	4	379	16	1,671	69	191	8	72	3	2,412	1.3
Sale of Livestock Products	0	0	152	29	260	50	108	21	0	0	520	0.3
Sales of Cash Crops	15,144	30	906	2	27,586	55	244	0	6,282	13	50,162	26.2
Sale of Forest Products	844	52	227	14	0	0	110	7	434	27	1,615	0.8
Business Income	2,548	32	760	10	3,138	40	816	10	650	8	7,912	4.1
Wages & Salaries in Cash	1,306	19	1,284	19	2,978	43	761	11	574	8	6,903	3.6
Other Casual Cash Earnings	5,261	36	3,119	21	4,333	30	1,006	7	791	5	14,510	7.6
Cash Remittance	841	17	917	18	2,606	52	220	4	428	9	5,011	2.6
Fishing	213	4	227	4	4,751	91	27	1	0	0	5,217	2.7
Other	1,116	48	459	20	254	11	354	15	144	6	2,327	1.2
Total	46,898	25	30,772	16	77,447	41	6,943	4	29,115	15	191,175	100.0

APPENDIX III QUESTIONNAIRES

UNITED REPUBLIC OF TANZANIA

Confidential



Page Number

Agriculture Sample Census 2002/03



ACLF 1: Sub-village leader listing form

Region _____ Code <input style="width: 30px;" type="text"/>	Ward _____ Code <input style="width: 30px;" type="text"/>
District _____ Code <input style="width: 30px;" type="text"/>	Village _____ Code <input style="width: 30px;" type="text"/>

Name of Village Chairman:.....

Sub-village leader number	Name of sub-village leader	Number of households		Comments
		From office register	After enumeration	
(1)	(2)	(3)	(4)	(5)
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Total		<input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/>	

Name of enumerator..... Signature Date.....

Name of supervisor..... Signature Date.....

UNITED REPUBLIC OF TANZANIA




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Interval Starting point

Page Number.....

Agriculture Sample Census 2002/03

ACL: 2 Household listing form - form for listing household heads and their agriculture activities

Region _____	Code <input type="text"/>	Name of Sub-village Leader _____
District _____	Code <input type="text"/>	Subvillage leader code <input type="text"/>
Ward _____	Code <input type="text"/>	
Village _____	Code <input type="text"/>	

Household Number (1)	Household head name (2)	Number of										✓ if the respondent qualifies to be a farmer * (13)	Farmer Serial Numbers (14)
		Fields + (3)	Cattle				Goats (8)	Sheep (9)	Pigs (10)	poultry/ducks (11)	Rabbit (12)		
			Total Number (4)	Adult male cattle (5)	Adult female cattle (6)	Calves (7)							
<input type="text"/>	<input type="text"/>												
<input type="text"/>	<input type="text"/>												
<input type="text"/>	<input type="text"/>												
<input type="text"/>	<input type="text"/>												
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<input type="text"/>	<input type="text"/>												
<input type="text"/>	<input type="text"/>												
<input type="text"/>	<input type="text"/>												
Totals													

* **NOTE:** (Column 13) Place a "✓" if the household has at least 1 field over 25m² and/or keeps at least 1 Cow, 5 Goats/Sheep/Pigs or 50 Chicken/poultry or ducks
 †(Column 3) A field must be at least 25 m²

Name of enumerator..... Signature Date.....
 Name of supervisor..... Signature Date.....

Ministry of Agriculture and Food Security, Ministry of Water and Livestock Development, Ministry of Cooperatives and Marketing and the National Bureau of Statistics

UNITED REPUBLIC OF TANZANIA



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National Agriculture Sample Census 2002/03

ACLF: 3 Household listing of 15 selected farmers

Region _____
 District _____
 Ward _____
 Village _____

Code
 Code
 Code
 Code






S/N	Sub village leader number		Name of sub-village leader	Agriculture hh serial number	Name of selected head of household	Number of							
	(1)	(2)				(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
01				<input type="text"/> <input type="text"/> <input type="text"/>									
02				<input type="text"/> <input type="text"/> <input type="text"/>									
03				<input type="text"/> <input type="text"/> <input type="text"/>									
04				<input type="text"/> <input type="text"/> <input type="text"/>									
05				<input type="text"/> <input type="text"/> <input type="text"/>									
06				<input type="text"/> <input type="text"/> <input type="text"/>									
07				<input type="text"/> <input type="text"/> <input type="text"/>									
08				<input type="text"/> <input type="text"/> <input type="text"/>									
09				<input type="text"/> <input type="text"/> <input type="text"/>									
10				<input type="text"/> <input type="text"/> <input type="text"/>									
11				<input type="text"/> <input type="text"/> <input type="text"/>									
12				<input type="text"/> <input type="text"/> <input type="text"/>									
13				<input type="text"/> <input type="text"/> <input type="text"/>									
14				<input type="text"/> <input type="text"/> <input type="text"/>									
15				<input type="text"/> <input type="text"/> <input type="text"/>									

Name of Enumerator: _____ Signature _____ Date _____

Name of Supervisor _____ Signature _____ Date _____

Ministry of Agriculture and Food Security, Ministry of Water and Livestock Development, Ministry of
 Cooperatives and Marketing and the National Bureau of Statistics

United Republic of Tanzania	
ACQ 1	
CONFIDENTIAL	
Small holder/Small Scale Farmer Questionnaire	
<p>Agriculture Sample Census</p> <p>2002/2003</p>	
	

Enumerator	Name	Signature																					
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		/			/																		
d	d		m	m		y	y																
		End time	<table border="1" style="margin: auto;"> <tr> <td style="width: 20px; height: 20px;"> </td> <td style="width: 20px; height: 20px;"> </td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> </table>																				
Field level checking by:			<i>To be completed by the supervisor ONLY after field/farm level checking of the enumeration process. This should be countersigned by the enumerator.</i>																				
District Supervisor:	Name	signature																					
	Date																						
Regional Supervisor:	Name	signature																					
	Date																						
National Supervisor:	Name	signature																					
	Date																						
District checking in Office:			<i>All questionnaires must be checked at the district office.</i>																				
District Supervisor	Name	signature																					
	Date																						
For Use at National Level only:			<i>See back page for details of query</i>																				
Data Entered by	Name	signature																					
	Date																						
Queried	Name	signature																					
	Date																						

Executed by the Ministry of Agriculture and Food Security, Ministry of Water and Livestock Development,
 Ministry of Cooperatives and Marketing
 and
 National Bureau of Statistics

1.0 IDENTIFICATION DETAILS			
1.1 Location			
S/N	Location Name	Codes	
1.1.1	Region	<input type="text"/>	
1.1.2	District	<input type="text"/>	
1.1.3	Ward	<input type="text"/>	
1.1.4	Village	<input type="text"/>	
1.2 Details of the respondent and household head			
S/N		Codes	
1.2.1	Name & number of local leader	<input type="text"/>	
1.2.2	Name & number of household head	<input type="text"/>	
1.2.3	Sex of household head (Male = 1, Female = 2)	<input type="text"/>	
1.2.4	Name of respondent	<input type="text"/>	
1.2.5	Relationship of Respondent to Household Head		
<p>Relationship to household head codes (Q 1.2.5) Head of Household.....1 Son/Daughter3 Grandson/Granddaughter5 Other (friend, employee, etc)...8 Spouse2 Father/Mother4 Other relative.....6</p>			
2.0 ACTIVITIES OF THE HOUSEHOLD			
2.1	Type of Agriculture Household	<input type="text"/>	
<p>Agriculture household codes(Q2.1) Crops only.....1 Livestock only2 Pastoralist.....3 Crops and Livestock4</p>			
2.2	Rank the following livelihood activities/source of income of the household in order of importance		
S/N	Livelihood/source of income activity.	Rank in order of importance 1=most 7=least	How important are each of these activities expressed in percentage.
	(1)	(2)	(3)
2.2.1	Annual Crop farming	<input type="text"/>	<input type="text"/> %
2.2.2	Permanent crop farming	<input type="text"/>	<input type="text"/> %
2.2.3	Livestock keeping/herding	<input type="text"/>	<input type="text"/> %
2.2.4	Off Farm Income	<input type="text"/>	<input type="text"/> %
2.2.5	Remittances	<input type="text"/>	<input type="text"/> %
2.2.6	Fishing/hunting and gathering	<input type="text"/>	<input type="text"/> %
2.2.7	Tree/forest resources (eg honey, firewood, timber,etc)	<input type="text"/>	<input type="text"/> %
			<input type="text"/> %

Definition and working page for page 1**General Definitions****Small holder hh/small scale farm:**

Should have between 25sq metres and 20 Hectares under production, and/or between 1 and 50 head of Cattle, and/or between 5 and 100 head of Sheep/Goats/Pigs, and/or between 50 and 1000 chickens/turkeys/ducks/rabbits.

Household: A group of people who occupy the whole or part of one or more housing units and makes joint provisions for food and/or other essentials for living.

Household Head: A person who is acknowledged by all other members of the household either by virtue of his age or standing in the household as the head. He/she should be a permanent resident of the house and he/she is the main person responsible for making decisions.

Agricultural Holding: This is an economic unit of agricultural production under single management. It consists of all livestock kept and all land used for agricultural production without regard to title. For the purpose of this survey, the agricultural holdings are restricted to those which meet one of the following conditions:

- Having or operated at least 25 sq meter of arable land
- Own or keep at least one head of cattle or five goats/sheep/pigs or fifty chicken/ducks/turkeys during the agricultural year 2002/03 (October 2002 to September 2003) .

Question Specific Definitions:**Type of Agriculture Holdings Codes (Q2.1):**

- **Crops only:** A holding is referred to be a crops only holding if it has cultivated a piece of land equal or exceeding 25 sq Meter. This also applies to all households owning or have kept livestock whose number does not qualify such household to be an agricultural holding (No cattle, less than 5 goats/sheep/pigs, less than 50 chickens/turkeys/ducks/rabbits)

- **Livestock only:** A holding is referred to be a Livestock only holding if it has exercised Livestock husbandry only during the agricultural year. The livestock can be herded in search for areas of pasture, but the core household unit always remains in the same place and the herder is rarely away from this place for long periods at a time.

- **Livestock pastoralism:** This refers to a household which practices livestock production as its major income generating activity and a means of subsistence, but moves from one place to another searching for water and pasture for the livestock. This movement usually involves long distances and in many cases the whole household unit moves with the livestock and they have no permanent place of residence.

For both livestock only and pastoralism , the number of livestock has to be at least 1 head of cattle, 5 goats/sheep/pigs or 50 chickens/turkeys/ ducks/rabbits. This also applies to all households owning or have cultivated a piece of land less than 25 sq meter, which does not qualify such household be an agricultural holding.

- **Both crops and livestock:** A holding is referred to be a both crops and livestock if it has cultivated a piece of land equal or exceeding 25 sq meter and if such households is owning or have kept livestock whose number qualify such household be an agricultural holding.

Important livelihood activities/source of income (Q 2.2):

- **Crop farming:** This refers to a household where crop production is its major means of subsistence and income generation.

- **Livestock farming/herding/pastoralism:** This refers to a household where livestock farming/herding is its major means of subsistence & income generation.

- **Off Farm Income** This refers to cash generated from activities other than from the households holding. This can be from permanent employment (eg government/other), temporary employment/labouring and includes cash generated from working on other farmers farms.

-**Remittances:** Assistance from family members who are not currently part of the household, or from a relative or family friend. This assistance is usually in the form of cash but it can also be in-kind (eg food, clothes, building material, farm tools, etc). The money is a gift and is not paid back.

-**Fishing/hunting and gathering** The use of non farmed resources for food eg fishing, hunting wildlife and gathering mushrooms, berries, wild honey roots from uncultivated land.

Procedures for Questions:**Q 2.1 Type of agriculture household/holding**

1. Using the options under the question classify the type of agriculture hh/holding

Note: If the hh had 1 acre of crops and raised 40 chickens during 2002/03 it is classified as '**Crops only**' as the number of chickens do not qualify the hh as keeping livestock.

Q 2.2 Important hh livelihood activities /source of income

1. Read the list in column 1 to the respondent and ask him to rank them in order of importance during the reference year.

2. In column 2 Indicate the importance of each activity by placing '1' against the most important, '2' against the second most important, etc until you reach '7' the least important activity/source of income.

Note: You must attempt to fill in all boxes. Most households will carry out these activities to a greater or lesser degree. You will normally have to probe to get remittances.

If the hh did not undertake an activity during the 2002/2003 agriculture year then mark the appropriate box in column 2 with an 'X'.

3. For each activity/source of income assign a percentage. The enumerator should assist the respondent in assigning the percentage based on the information provided by the farmer.

4. After completing column 3 make sure the percentages add up to 100.

Note: It is not essential to be 100% accurate. This question is just to give the relative importance of the different items in general terms

3.0 HOUSEHOLD INFORMATION

3.1 Give details of personal **particulars** of all household members beginning with the head of the household

S/N	Names of household members	Relation-ship to head	Sex M=1 F=2	Age (if age is above 99 years then write 99)	Survival of Parents		Read & Write	Edu- ca- tion Status	Education Level reached	Invol- vement in farming	Main activity (for aged 5 & above)	Off-farm Income Yes=1 No=2
					Mo- ther	Fa- ther						
Not applicable for children under 5 years of age												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
3.1.1	1										
3.1.2											
3.1.3											
3.1.4											
3.1.5											
3.1.6											
3.1.7											
3.1.8											
3.1.9											
3.1.10											
3.1.11											
3.1.12											
3.1.13											
3.1.14											
3.1.15											
3.1.16											

Relation to head (Col 2)
 Head of household1
 Spouse2
 Son/daughter3
 Father/Mother4
 Grandson/granddaughter .5
 Other Relative6
 Others8

Education Status (Col 8)
 Attending School1
 Completed2
 Never attended School3

Involvement in farming activities (Col 10)
 Works full time on farm ...1
 Works part-time on farm 2
 Rarely works on farm3
 Never works on farm.....4

Main activity (Col 11)
 Crop Farming01
 Livestock Keeping/Herding..02
 Livestock Pastoralism.....03
 Fishing04
 Paid employment:
 - Government/parastatal05
 - Private- NGO/mission/etc .06
 Self employed (non farming)
 - with employees07
 - without employees08
 Unpaid family helper (non
 agriculture)09
 Not working & available.....10
 Not working & unavailable...11
 Housemaker/housewife12
 Student13
 Unable to work /too old/
 Retired/sick/disabled).....14
 Other98

Survival of Parents (Col 5 & 6)
 Yes1
 No2
 Don't know3

Education Level Reached (Col 9)
Primary Education
 Not of school ageNA
 Under Standard One 00
 Standard One01
 Standard Two02
 Standard Three03
 Standard Four04
 Standard Five05
 Standard Six06
 Standard Seven07
 Standard Eight08
 Training after Primary
 Education09
 Pre Form One10
Secondary Education
 Form one11
 Form two12
 Form three13
 Form four14
 Form five15
 Form six16
 Training after Secondary
 Education17
 University & other tertiary
 Education18
 Adult Education19
 Not applicable99

Read & Write (Col 7)
 Swahili1
 English2
 Swahili & English3
 Any other language4
 Don't Read/ Write5

Definition and working page for page 2**Question Specific Definitions:****Relation to head (Col 2):**

- **Household Head:** A person who is acknowledged by all other members of the household either by virtue of their age or standing as the household head.

Read and Write (Col 7):

- **Any other language:** Must be a written language.

For someone who can read and write in Swahili and any other language apart from English, the correct code is 1. For one who can read and write in English and any other language apart from Swahili the correct code is 2. Code 4 should only be used for another language but not English or Swahili

Education Level Reached (Col 9):

Indicate the highest level only. For those still attending school fill in the last year reached before the survey period. For example if a hh member is currently in standard 7 this year his highest grade reached is standard 6

Main Activity (Col 11):

- **Crop farming:** The persons main activity is crop production. This can be annual crops, vegetables, permanent crops or tree farming.

- **Livestock farming/herding:** The persons main activity is livestock farming/herding. The livestock can be herded in search for areas of pasture, but the core household unit always remains in the same place and the herder is rarely away from this place for long periods at a time. This category also includes fish farming but not fishing.

- **Livestock pastoralism:** The persons main activity is in moving livestock from one place to another searching for water and pasture for the livestock. This movement usually involves long distances and in many cases the whole household unit moves with the livestock and they may have no permanent place of residence.

- **Paid employment** - In full time employment earning a cash income

- Government/Parastatal - In full time employment for a government Ministry, Department or Board that is controlled by the Government
- Private/NGO/Mission/etc - employed by Non public/government organisation

- **Self employee** - works for own business for cash income

- With employees - Works for own business for cash and employs other workers

- Without employees - Works for own business for cash but does not employ other workers

- **Not working but available to work** - No productive activity but would like to have one.

- **Not working & nor available for work** - No productive activity and does not want to have one.

- **Unable to work** too old, too young, retired, disabled, etc

Off-farm Income (Col 12) - Income made from activities NOT on the HH's farming activities. This can be any off farm income generation activity and includes working for cash on other peoples farms.

Indicate whether each member was involved in an off farm income generating activity during 2002/03

Overview to section 3.0**Section 3.0 - Preliminary note**

1. Make sure that you define the hh properly to ensure that all the members of the hh are included. Make sure you stress that the hh is not just the hh heads direct family and that it includes other people living and eating together with the family.

2. If you notice that his house is large or you see many people around his house and he has only given you small number of hh members enquire further until you are sure that you have captured all the hh members.

Procedures for questions**Section 3.0 - Household Information**

1. For each household member complete columns 1, 2 & 3.

2. After completing columns 1, 2 & 3 for each household member go back to the first household member and complete the remaining columns for that member.

3. Repeat step 2 for the rest of the household members

IMPORTANT NOTE:

Cross check responses in columns 11 and 12 with section 2 especially in relation to:

off-farm income - if a hh member was involved in off farm income then there should be a response in question 2.2.4 and vice versa.

4.0 LAND ACCESS/OWNERSHIP/TENURE			
4.1 Details of area "owned" by the household in the 2002/03 agricultural year. Give area reported by the respondent in "acres".		Area in Acres	
4.1.1 Area Leased/Certificate of ownership	<input type="text"/>	<input type="text"/>	4.2 Was all land available to the hh used during 2002/03 (Yes=1, No=2) <input type="checkbox"/>
4.1.2 Area owned under Customary Law	<input type="text"/>	<input type="text"/>	
4.1.3 Area Bought from others	<input type="text"/>	<input type="text"/>	4.3 Do you consider that you have sufficient land for the hh (Yes=1, No=2) <input type="checkbox"/>
4.1.4 Area Rented from others	<input type="text"/>	<input type="text"/>	
4.1.5 Area Borrowed from others	<input type="text"/>	<input type="text"/>	4.4 Do any female members of the hh own or have customary right to land (Yes=1, No=2) <input type="checkbox"/>
4.1.6 Area Share -cropped from others	<input type="text"/>	<input type="text"/>	
4.1.7 Area under Other forms of tenure	<input type="text"/>	<input type="text"/>	
Total area		<input type="text"/>	<input type="text"/>

5.0 LAND USE			
5.1 Area operated by household under different forms of land use during 2002/03 agriculture year. Give area reported by the respondent in "acres".		Area in Acres	Calculation area
5.1.1 Area under Temporary Mono-crops	<input type="text"/>	<input type="text"/>	
5.1.2 Area under Temporary Mixed crops (eg Maize & beans)	<input type="text"/>	<input type="text"/>	
5.1.3 Area under Permanent Mono-crops	<input type="text"/>	<input type="text"/>	
5.1.4 Area under Permanent Mixed crops (eg bananas, coffee & trees)	<input type="text"/>	<input type="text"/>	
5.1.5 Area under Permanent/temporary mix (eg bananas & maize)	<input type="text"/>	<input type="text"/>	
5.1.6 Area under Pasture	<input type="text"/>	<input type="text"/>	
5.1.7 Area under Fallow	<input type="text"/>	<input type="text"/>	
5.1.8 Area under Natural Bush	<input type="text"/>	<input type="text"/>	
5.1.9 Area under Planted Trees	<input type="text"/>	<input type="text"/>	
5.1.10 Area Rented to others	<input type="text"/>	<input type="text"/>	
5.1.11 Area Unusable	<input type="text"/>	<input type="text"/>	
5.1.12 Area of Uncultivated Usable land (excluding fallow)	<input type="text"/>	<input type="text"/>	
Total area		<input type="text"/>	

6.0 ACCESS AND USE OF RESOURCES

6.1 In the following table indicate the distance to the different fields used by the household

S/N	Field Number	Distance (in kilometres) from field to:			Distance codes less than 100m1 between 2 and 3km6 between 100 and 300m ..2 between 3 and 5km7 between 300 and 500m ..3 between 5 and 10 km ..8 between 500 and 1km....4 Over 10 km9 between 1 and 2km5
		Homestead	Nearest road	Nearest Market	
6.1.1	1	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.1.2	2	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.1.3	3	<input type="text"/>	<input type="text"/>	<input type="text"/>	

6.2 In the following table indicate the distance and use of the following communal resources

S/N	Communal Resource	Distance to resource (km)		Main hh use	Instructions for distance to resource (Col 2 and 3): If under 1km, write 0 If above 1km round to whole numbers eg 1.5km= 2km, 1.25km= 1km Main hh use (Col 4) Home or farm Consumption/utilisation.....1 Sold to Neighbours.....2 Sold to trader on the farm.....3 Sold to village market4 Sold to local wholesale market.....5 Sold to major wholesale market6 Not used by household.....7 Not available8
		dry season	wet season		
	(1)	(2)	(3)	(4)	
6.2.1	Water for humans	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.2	Water for livestock	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.3	Communal Grazing	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.4	Communal Firewood	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.5	Wood for Charcoal	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.6	Building poles	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.7	Forest for bees (honey)	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.8	Hunting (animal products)	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.9	Fishing (Fish)	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	

Definition and working page for page 3

Question Specific Definitions

Section 4.1 - Land Access/Ownership

Lease/Certificate of Ownership Area under lease/certificate of ownership refers to the area for which the household possesses a government issued leasehold title or certificate of ownership. The land will normally be officially surveyed and boundaries marked. This includes leased land bought from others where the lease/certificate of ownership has been transferred.

Customary Law: This refers to the land which the hh does not have an official government title to but its right of use is granted by the traditional leaders. This user-right agreement does not have to be granted directly by the village leaders as right of access may be passed on through heredity.

Bought: This refers to the area of customary land that has been bought from others. This land does not have an official title and therefore is not leasehold.

Rented from others: Land rented from others for Cash or for a fixed amount in crop produce (eg fixed number of bags at harvest).

Borrowed: Use granted by land owner free of charge. Land owner can either be a lease holder or has right of access through customary law.

Share Cropping: where the hh is permitted to use land which is then paid for from a percentage of the harvested crop.

Section 5.0 Land Use

- **Temporary crops:** are sown and harvested during the same agricultural year

- **Permanent crops:** are sown or planted once and then , they occupy the land for some years and need not to be replanted after each annual harvest. Permanent crops are mainly trees (e.g., apples) but also bushes and shrubs (e.g., berries), palms (e.g., dates), vines (e.g., grapes), herbaceous stems (e.g., bananas) and stemless plants (e.g., pineapples).

- **Mixed Crops:** This is a mixture of two or more crops planted together and mixed in the same plot/field. The two crops can either be randomly planted together or they can be planted in a particular pattern eg intercropping (1 row of maize and 1 row of beans). A field that has been divided into plots for different crops is not mixed. This is further subdivided into:

Permanent Mixed -two or more permanent crops grown together,
Permanent/Temporary Mix - permanent crop and annual crop together,
Temporary Mixed - two or more temporary, annual crops grown together.

- **Pasture Land:** This is an area of owned/allocated land which is set aside for livestock grazing. It can be improved pasture where the farmer has planted grass, applied fertilized or applied other production increasing technologies to improve the grazing. Or it can be rough pasture.

- **Fallow:** This is the area of land that is normally used for crop production, but is not used for crop production during a year or a number of years. This is normally to allow for self generation of fertility/soil structure and is often an integral part of the crop rotation system.

- **Natural Bush:** Land which is considered productive but is not under cultivation or used extensively for livestock production and has naturally growing shrubs and trees.

- **Planted trees:** Land which is used for planting trees for poles or timber

- **Unusable:** Land that is known to be non-productive for agriculture purposes

Uncultivated Usable: This is land that was not used for reasons other than fallow. The reasons could be lack of inputs/money/rainfall/etc

Distance to fields (Q6.1):

-**fields** A field is a contiguous piece of land holding which the farmer considers as a single entity. The field may be divided into plots for growing different crops. A holding may consist of one or more fields in different localities.

Use of Communal Resources (Q6.2):

-**Communal resources** - refers to the place on which all individual households can have access to. It is not individually owned or controlled by one hh.

NOTE: The listed resources refers to communal resources and not those individually owned or part shared. The resource has to be freely accessible to the whole village

Overview to section 4

Section 4.0 - Preliminary note Land Access/ Ownership

Access/Ownership refers to the area utilized by the members of the household. This does not include communal land where the resources are shared between households. It does include official communal land that the hh has sole access to eg a plot for crop farming in the communal area.

Procedures for Questions

Section 4.0 - Land Ownership

1. Ask the respondent if he knows the total area of land the household has sole access to. If he knows make a note in the calculation space
2. Ask the respondent the area of the different land ownership categories the household has sole access to (Q4.1.1 to 4.1.7) and record in the appropriate spaces.
3. Add up the area of the different categories of land and compare it with the total area obtained in step 1 (if the respondent provided the information).
4. If the total area is different find out which one is correct and make amendments where appropriate.

Section 5.0 - Land Use

1. Ask the respondent the area of the different landuse categories the household has sole access to (Q5.1.1 to 5.1.12) and record in the appropriate spaces.
2. Add up the area of the different categories of land and compare it with the total area obtained in section 4.0. The total area should be the same.
3. If the total area is different find out which one is correct and make amendments where appropriate.

Section 6.2 Communal resources

Note: the code "Not available" means that the resource does not exist. The code "Not Used" means that the resource does exist but is not used by the hh.

7.0 ANNUAL CROP AND VEGETABLE PRODUCTION - SHORT RAINY SEASON

7.1.1 Did the hh **plant** any crops during the **Short Rainy** season? (Yes = 1, No=2) *If the response is 'NO' give main reason Then go to section 7.2*

7.1.2 For each crop planted during 2002/03 **Short Rainy** season provide the following information

Planting				Inputs								Harvesting & Storage					Marketing			
Crop Name	Crop Code	Land Clearing	Soil preparation	Planned area (acres)	Actual Planted area (acres)	% improved seed	Irrigation use	Fertiliser use	Herbicide use	Fungicide use	Pesticide use	How harvested	How threshed	Area Harvested (acres)	main product code	Quantity harvested (Kgs)	Quantity Stored (kgs)	Quantity sold (kgs)	Mostly sold to	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
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Total Planned/Planted						Total area harvested														

7.1.3 Main reason for difference between **Area Planned** and **Area Planted**

<p>Land Clearing (Col 3)</p> <p>Mostly bush clearance ...1 Mostly hand slashing ...2 Mostly tractor slashing ...3 Mostly burning4 No land clearing5</p>	<p>Improved seed Use (Col 7)</p> <p>all Improved1 approx 3/4 improved2 approx 1/2 improved3 approx 1/4 improved4 less than 1/4 improved ..5 No improved seed used.6</p>	<p>Fertiliser codes (Col 9)</p> <p>Mostly Farm Yard Manure 1 Mostly Compost2 Mostly Inorganic fertiliser ..3 No fertiliser applied4</p>	<p>Threshed/harvested (Col 13 & 14)</p> <p>By hand1 By draft animal2 By human powered tool3 By engine driven machine...4 Not applicable9</p>
<p>Soil preparation Method (Col 4)</p> <p>Mostly tractor ploughing .1 Mostly Oxen ploughing ..2 Mostly Hand cultivation ..3</p>	<p>Irrigation Use (Col 8)</p> <p>Used on all crop1 Used on 3/4 of crop2 Used on 1/2 of crop3 Used on 1/4 of crop4 Used on less than 1/45 Not used6</p>	<p>Agrochemical use codes (Col 10,11 & 12)</p> <p>Used on all crop1 Used on 3/4 of crop2 Used on 1/2 of crop3 Used on 1/4 of crop4 Used on less than 1/45 Not used6</p>	<p>Main product (Col 16)</p> <p>Dry Grain1 Green cob/green pod2 Green leaves & Stem3 Straw, dry stems etc4 Root, tuber, etc5 Flower eg pyrethrum6 Fruit/bunch7 Other8 Not harvested yet9</p>

7.1.4 Main reason for difference between **Area Planted** and **Area Harvested**

<p>Reason for difference between area planned and planted (Q7.1.3)</p> <p>Drought1 Floods2 Access to land preparation tools (Draft animal/tractors).3 Credit4 Access to seeds/planting material5 Access to other inputs6 Other7 Not applicable9</p>	<p>Reason for difference between area planted and harvested (Q7.1.4)</p> <p>Drought1 Rain/flood damage2 Fire damage3 Pest damage4 Animal damage5 Theft6 Illness/social problems7 Other8 Not applicable9</p>
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Definitions and working page for page 4					
<i>Working table for the calculation of area occupied by annual crop in a mixture</i>					
Crop mixture 1	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
(a)	(b)	(c)	(d)	(e)	(f)
Permanent crop 1			0.00		0
Permanent crop 2			0.00		0
Permanent crop 3			0.00		0
Permanent crop 4			0.00		0
Total Area of permanent crops in mix					0
REMAINING AREA UNDER TEMPORARY CROPS					
			crop%	crop area	
Temporary/permanent crop name 1					
Temporary/permanent crop name 2					
Temporary/permanent crop name 3					
Total area check			Crop total check		
Crop mixture 2	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
(a)	(b)	(c)	(d)	(e)	(f)
Permanent crop 1			0.00		0
Permanent crop 2			0.00		0
Permanent crop 3			0.00		0
Permanent crop 4			0.00		0
Total Area of permanent crops in mix					0
REMAINING AREA UNDER TEMPORARY CROPS					
			crop%	crop area	
Temporary/permanent crop name 1					
Temporary/permanent crop name 2					
Temporary/permanent crop name 3					
Total area check			Crop total check		

Land Clearing: Refers to removing trees/bush/grass prior to ploughing

Soil Preparation: Refers to the seedbed preparation (ploughing, harrowing, etc)

Planned Area: Area in Acres the household planned to plant before the season started

Actual Planted Area: The area in Acres the household was able to plant.

Area Harvested: The area in Acres that produced a harvest. This is the same as the area planted minus the area that was destroyed by major flood/pest/ animal/etc damage.

Temporary/Annual Crop: Crops which are planted and harvested within a period of 12 months after which time the plants die. Most annual crops are planted and harvested on a seasonal basis.

<p>Crop Codes (Cereals /tubers/roots):</p> <table border="0"> <tr><td>Code Crop</td><td></td></tr> <tr><td>11</td><td>Maize</td></tr> <tr><td>12</td><td>Paddy</td></tr> <tr><td>13</td><td>Sorghum</td></tr> <tr><td>14</td><td>Bulrush Millet</td></tr> <tr><td>15</td><td>Finger Millet</td></tr> <tr><td>16</td><td>Wheat</td></tr> <tr><td>17</td><td>Barley</td></tr> <tr><td>22</td><td>Sweet Potatos</td></tr> <tr><td>23</td><td>Irish potatoes</td></tr> <tr><td>24</td><td>Yams</td></tr> <tr><td>25</td><td>Cocoyams</td></tr> <tr><td>26</td><td>Onions</td></tr> <tr><td>27</td><td>Ginger</td></tr> </table>	Code Crop		11	Maize	12	Paddy	13	Sorghum	14	Bulrush Millet	15	Finger Millet	16	Wheat	17	Barley	22	Sweet Potatos	23	Irish potatoes	24	Yams	25	Cocoyams	26	Onions	27	Ginger	<p>Vegetable Codes:</p> <table border="0"> <tr><td>Co</td><td>Crop</td></tr> <tr><td>-de</td><td></td></tr> <tr><td>86</td><td>Cabbage</td></tr> <tr><td>87</td><td>Tomatoes</td></tr> <tr><td>88</td><td>Spinach</td></tr> <tr><td>89</td><td>Carrot</td></tr> <tr><td>90</td><td>Chillies</td></tr> <tr><td>91</td><td>Amaranths</td></tr> <tr><td>92</td><td>Pumpkins</td></tr> <tr><td>93</td><td>Cucumber</td></tr> <tr><td>94</td><td>Egg Plant</td></tr> <tr><td>95</td><td>Water Mellon</td></tr> <tr><td>96</td><td>Cauliflower</td></tr> </table>	Co	Crop	-de		86	Cabbage	87	Tomatoes	88	Spinach	89	Carrot	90	Chillies	91	Amaranths	92	Pumpkins	93	Cucumber	94	Egg Plant	95	Water Mellon	96	Cauliflower	<p>Crop Codes Legumes Oil & fruit:</p> <table border="0"> <tr><td>Code Crop</td><td></td></tr> <tr><td>31</td><td>Beans</td></tr> <tr><td>32</td><td>Cowpeas</td></tr> <tr><td>33</td><td>Green gram</td></tr> <tr><td>35</td><td>Chick peas</td></tr> <tr><td>36</td><td>Bambara nuts</td></tr> <tr><td>37</td><td>Field peas</td></tr> <tr><td>41</td><td>Sunflower</td></tr> <tr><td>42</td><td>Simsim</td></tr> <tr><td>43</td><td>Groundnut</td></tr> <tr><td>47</td><td>Soyabeans</td></tr> <tr><td>48</td><td>Caster seed</td></tr> </table>	Code Crop		31	Beans	32	Cowpeas	33	Green gram	35	Chick peas	36	Bambara nuts	37	Field peas	41	Sunflower	42	Simsim	43	Groundnut	47	Soyabeans	48	Caster seed
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Cash Crop Codes:

Code Crop	
50	Cotton
51	Tobacco
53	Pyrethrum
62	Jute
19	Seaweed

Instructions for calculating the area of mixed crops in a mixture.

A. If the mixed crop is mixed annual only enter the total area of the field in the REMAINING AREA UNDER TEMPORARY CROPS. and goto step 1 of these instructions.

B. If the mixed crop is mixed permanent and annual try to get the % occupied by the different crops and calculate the area of annual crops outlined in step 1. Otherwise use the number of trees method to calculate the area of annual crops in the mix, Step C

C. Number of trees method to calculate annual crop areas in a permanent-annual crop mix/

- (i) list each of the permanent crops in column b and enter the ground area per acre for each permanent crop (from instructions for page 6) in column 'd'.
- (ii) obtain the number of permanent trees in the mix from the respondent and enter the number in column 'e'.
- (iii) calculate the area occupied by each crop by multiplying column 'd' with column 'e' and sum these to obtain the total area of permanent crops in the mix.
- (iv) subtract the total area of permanent crops in the mix from the total area of mix and enter the result in the total area under temporary crops.
- (v) proceed to step 1 to calculate the area under each temporary crop.

1. Enter the name of each annual crop in the mix & estimate the percentage of each crop.
2. Using the percentages for each crop calculate the area of each crop from the REMAINING AREA UNDER TEMPORARY CROPS.
3. After completing this exercise for all fields, sum the area of each crop in the mix plus any monocrops and enter totals in section 7.1 col 6.
4. Obtain an estimate of the planned area for each crop and enter it in column 5
5. If the area harvested is different to the area planted estimate the harvest area
6. Once the quantity harvested is obtained calculate the Yield (Metric tonnes/acre) & compare the figure with the norms given in the crop codes box. If it is excessively different check the area and the amount harvested.

7.2 ANNUAL CROP AND VEGETABLE PRODUCTION - LONG RAINY SEASON

7.2.1 Did the hh **plant** any crops during the **LONG RAINY** season? (Yes=1 No=2)

If the response is 'NO' give main reason

Then go to section 7.3

Main Reason (Above) No rains....1 Rains came too late2 Does not plant annual crops3
No money 4 Illness/social problems ..5

7.2.2 For each crop planted during 2002/03 **Long Rainy** season provide the following information

Crop Name	Crop Code	Land Clearing	Soil preparation	Planting		Inputs						Harvesting & Storage				Marketing			
				Planned area (acres)	Actual Planted area (acres)	% improved seed	Irrigation use	Fertiliser use	Herbicide use	Fungicide use	Pesticide use	How harvested	How threshed	Area Harvested (acres)	main product code	Quantity harvested (Kgs)	Quantity Stored (Kgs)	Quantity sold (kgs)	mostly sold to
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
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.....																			
Total Planned/Planted						Total area harvested													

7.2.3 Main reason for difference between **Area Planned** and **Area Planted**

7.2.4 Main reason for difference between **Area Planted** and **Area Harvested**

<p>Land Clearing (Col 3)</p> <p>Mostly bush clearance ...1 Mostly hand slashing2 Mostly tractor slashing ...3 Mostly burning4 No land clearing5</p>	<p>Improved seed Use (Col 7)</p> <p>all Improved1 approx 3/4 improved.....2 approx 1/2 improved.....3 approx 1/4 improved....4 less than 1/4 improved ..5 No improved seed used.6</p>	<p>Fertiliser codes (Col 9)</p> <p>Mostly Farm Yard Manure 1 Mostly Compost2 Mostly Inorganic fertiliser ..3 No fertiliser applied4</p>	<p>Threshed/harvested (Col13 & 14)</p> <p>By hand1 By draft animal2 By human powered tool.....3 By engine driven machine...4 Not applicable9</p>	<p>Mostly sold to (Col 20)</p> <p>Neighbour.....01 Local market/trade store02 Secondary Market...03 Tertiary Market04 Marketing Coop ...05 Farmer Association06 Largescale farm ...07 Trader at Farm08 Contract Partner ...09 Did not sell10 Other98</p>	<p>Reason for difference between area planned and planted (Q7.2.3)</p> <p>Drought1 Floods2 Access to land preparation tools (Draft animal/tractors).3 Credit4 Access to seeds/planting material.....5 Access to other inputs6 Other8 Not applicable9</p>	<p>Reason for difference between area planted and harvested (Q7.2.4)</p> <p>Drought1 Rain/flood damage2 Fire damage3 Pest damage4 Animal damage5 Theft6 Illness/social problems7 Other8 Not applicable.....9</p>
<p>Soil preparation Method (Col 4)</p> <p>Mostly tractor ploughing .1 Mostly Oxen ploughing ..2 Mostly Hand cultivation ...3</p>	<p>Irrigation Use (Col 8)</p> <p>Used on all crop1 Used on 3/4 crop2 Used on 1/2 crop3 Used on 1/4 of crop.....4 Used on less than 1/4...5 Not used6</p>	<p>Agrochemical use codes (Col 10,11 &12)</p> <p>Used on all crop1 Used on 3/4 of crop2 Used on half of crop.....3 Used on 1/4 of crop4 Used on less than 1/45 Not used6</p>	<p>Main product (Col 16)</p> <p>Dry Grain1 Green cob/green pod.....2 Green leaves & Stem.....3 Straw, dry stems etc4 Root, tuber, etc5 Flower eg pyrethrum6 Fruit/bunch.....7 Others8 Not harvested yet9</p>			

Definitions and working page for page 5

Working table for the calculation of area occupied by annual crop in a mixture

Crop mixture 1	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
(a)	(b)	(c)	(d)	(e)	(f)
Permanent crop 1			0.00		0 .
Permanent crop 2			0.00		0 .
Permanent crop 3			0.00		0 .
Permanent crop 4			0.00		0 .

Total Area of permanent crops in mix 0 .

REMAINING AREA UNDER TEMPORARY CROPS .

	Temp crop%	Temp crop area
Permanent/Temporary crop name 1		
Permanent/Temporary crop name 2		
Permanent/Temporary crop name 3		

Total area check . Temporary crop total check .

Crop mixture 2	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
(a)	(b)	(c)	(d)	(e)	(f)
Permanent crop 1			0.00		0 .
Permanent crop 2			0.00		0 .
Permanent crop 3			0.00		0 .
Permanent crop 4			0.00		0 .

Total Area of permanent crops in mix 0 .

REMAINING AREA UNDER TEMPORARY CROPS .

	Temp crop%	Temp crop area
Temporary/permanent crop name 1		
Temporary/permanent crop name 2		
Temporary/permanent crop name 3		

Total area check . Temporary crop total check .

Land Clearing: Refers to removing trees/bush/grass prior to ploughing
Soil Preparation: Refers to the seedbed preparation (ploughing, harrowing, etc)
Planned Area: Area in **Acres** the household planned to plant before the season started
Actual Planted Area: The area in **Acres** the household was able to plant.
Area Harvested: The area in **Acres** that the household got most of its production from. This is the same as the area planted minus the area that was destroyed by major flood/pest/ animal/etc damage

Temporary/Annual Crop: Crops which are planted and harvested within a period of 12 months after which time the plants die. Most annual crops are planted and harvested on a seasonal basis.	Crop Codes (Cereals /tubers/roots): Code Crop 11 Maize 12 Paddy 13 Sorghum 14 Bulrush Millet 15 Finger Millet 16 Wheat 17 Barley 22 Sweet Potatos 23 Irish potatos 24 Yams 25 Cocoyams 26 Onions 27 Ginger	Vegetable Codes: Code Crop 27 Ginger 86 Cabbage 87 Tomatoes 88 Spinach 89 Carrot 90 Chillies 91 Amaranths 92 Pumpkins 93 Cucumber 94 Egg Plant 95 Water Mellon 96 Cauliflower 20 Garlic	Crop Codes Legumes Oil & fruit: Code Crop 31 Beans 32 Cowpeas 33 Green gram 35 Chick peas 36 Bambara nuts 37 Field peas 41 Sunflower 42 Simsim 43 Groundnut 47 Soyabeans 48 Caster seed
	Cash Crop Codes: Code Crop 50 Cotton 51 Tobacco 53 Pyrethrum 62 Jute 19 Seaweed		

Instructions for calculating the area of mixed crops in a mixture.

- A. If the mixed crop is mixed annual only enter the total area of the field in the REMAINING AREA UNDER TEMPORARY CROPS. and goto step 1 of these instructions.
 - B. If the mixed crop is mixed permanent and annual try to get the % occupied by the different crops and calculate the area of annual crops outlined in step 1. Otherwise use the number of trees method to calculate the area of annual crops in the mix (Step C).
 - C. Number of trees method to calculate annual crop areas in a perenent-annual crop mix
 - (i) list each of the permanent crops in column b and enter the ground area per acre for each permanent crop (from instructions for page 6) in column 'd'.
 - (ii) obtain the number of permanent trees in the mix from the respondent and enter the number in column 'e'.
 - (iii) calculate the area occupied by each crop by multiplying column 'd' with column 'e' and sum these to obtain the total area of permanent crops in the mix.
 - (iv) subtract the total area of permanent crops in the mix from the total area of mix and enter the result in the total area under temporary crops.
 - (v) proceed to step 1 to calculate the area under each temporary crop.
1. Enter the name of each annual crop in the mix & estimate the percentage of each crop.
 2. Using the percentages for each crop calculate the area of each crop from the REMAINING AREA UNDER TEMPORARY CROPS.
 3. After completing this exercise for all fields, sum the area of each crop in the mix plus any monocrops and enter totals in section 7.1 col 6.
 4. Obtain an estimate of the planned area for each crop and enter it in column 5
 5. If the area harvested is different to the area planted estimate the harvest area
 6. Once the quantity harvested is obtained calculate the Yield (Metric tonnes/acre) & compare the figure with the norms given in the crop codes box. If it is excessively different check the area and the amount harvested.

7.3 PERMANENT/PERENNIAL CROPS AND FRUIT TREE PRODUCTION

7.3.1 Does your household have any permanent/perennial crops or fruit trees (Yes=1, No=2) 1

7.3.2 For each of the permanent crops and fruit trees owned by the household provide the following information

		Size of production unit			Inputs					Harvesting & Storage					Marketing		
Perm- anent Crop Name	Perman- ent crop/ fruit tree crop Code	MONOCROP	MIXED CROP		Irrig- -at -ion use	Fert- -ilis- -er use	Herb- -ic -ide use	Fun- -gic -ide use	Pest -ici- -de use	Area Harvested (acres)	Number of mature plants	main prod- -uct code	Quantity harvested (kgs)	If no harvest give re- -ason	Quantity Stored (Kgs)	Quantity sold (kgs)	mostly sold to
		Area of Plants/ trees/Bushes in MONO CROP (acres)	Area covered by Permanent Crop in a MIXED CROP (acre)	Number of permanent Plants/trees in a MIXED CROP													
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<p>Irrigation Use (Col 6)</p> <p>Used on all crop1</p> <p>Used on most crop2</p> <p>Used on half crop3</p> <p>Used on small amount of crop.4</p> <p>Not used on crop5</p>	<p>Fertiliser codes (Col 7)</p> <p>Mostly Farm Yard Manure.....1</p> <p>Mostly Compost2</p> <p>Mostly Inorganic fertiliser3</p> <p>No fertiliser applied4</p>	<p>Agrochemical use codes (Col 8, 9 & 10)</p> <p>Used on all crop1</p> <p>Used on 3/4 of crop2</p> <p>Used on 1/2. of crop3</p> <p>Used on 1/4 of crop4</p> <p>less than 1/4 of crop5</p> <p>Not used6</p>	<p>Main product (Col 13)</p> <p>Dry Grain.....1</p> <p>Green cob/green pod..2</p> <p>Green leaves & Stem..3</p> <p>Straw, dry stems etc ...4</p> <p>Root, tuber, etc5</p> <p>Flower6</p> <p>Fruit/bunch.....7</p> <p>Other8</p> <p>Not harvested yet9</p>	<p>Main Reason for no harvest(Col 15)</p> <p>Crop not harvested yet1</p> <p>Drought2</p> <p>Rain/flood damage3</p> <p>Fire damage4</p> <p>Pest damage5</p> <p>Animal damage6</p> <p>Theft7</p> <p>Other8</p> <p>Not applicable9</p>	<p>Mostly sold to (Col 18)</p> <p>Neighbour.....01</p> <p>Local market/trade store....02</p> <p>Secondary Market03</p> <p>Tertiary Market04</p> <p>Marketing Coop05</p> <p>Farmer Association06</p> <p>Largescale farm07</p> <p>Trader at farm08</p> <p>Contract Partner09</p> <p>Did not sell10</p> <p>Other98</p>
--	--	---	---	--	--

Definitions and working page for page 6

Permanent Crop:

Permanent crops: are sown or planted once and then , they occupy the land for some years and need not to be replanted after each annual harvest. Permanent crops are mainly trees (e.g., apples) but also bushes and shrubs (e.g., berries), palms (e.g., dates), vines (e.g., grapes), herbaceous stems (e.g., bananas) and stemless plants (e.g., pineapples).

Total number of plants:

This includes both mature harvestable plants and immature non harvestable plants.

Number of mature plants: This is the number of plants which bared harvest.

Instructions for Permanent crop mono stands and mixtures

- A.** For fields that are **monocrop permanent**, **ONLY** enter the **area of plants in column 3**.
- B.** For fields that are **mixed permanent** calculate the area of each crop based on the % **occupied by each crop method** (NOT using the number of trees method) and **ONLY** enter the area in **column 4**
- C.** For fields that are **mixed permanent/annual** either:
- **ONLY** enter the **area in column 4** if the area of the permanent crop was based on the % **occupied by each crop method**
- OR**
- **ONLY** enter the **number of trees in column 5** if the number of permanent crop plants was provided

Permanent crops (oils):

Code	Crop	Ground area/plant
44	Palm Oil	0.00049
45	Coconut	0.00037
46	Cashewnut	0.00062

Permanent (Cash crops)

Code	Crop	Ground area/plant
53	Sisal	0.00012
54	Coffee	0.00049
55	Tea	0.00037
56	Cocoa	0.00049
57	Rubber	0.00099
58	Wattle	0.00099
59	Kapok	0.00124
60	Sugar Cane	0.00012
61	Cardamom	0.00049
63	Tamarin	0.00099
64	Cinamon	0.00124
65	Nutmeg	0.00099
66	Clove	0.00074
18	Black Pepper	0.00037
34	Pigeon pea	0.00025
21	Cassava	0.00019
75	Pineapple	0.00006

Permanent Crops:

Code	Crop	Ground area/plant
70	Passion Fruit	0.00074
71	Banana	0.00037
72	Avocado	0.00099
73	Mango	0.00099
74	Papaw	0.00037
76	Orange	0.00074
77	Grapefruit	0.00074
78	Grapes	0.00012
79	Mandarin	0.00074
80	Guava	0.00074
81	Plums	0.00074
82	Apples	0.00074
83	Pears	0.00074
84	Peaches	0.00074
85	Lime/lemon	0.00074
68	Pomelo	0.00099
69	Jack fruit	0.00074
97	Durian	0.00074
98	Bilimbi	0.00074
99	Rambutan	0.00074
67	Bread fruit	0.00099
38	Malay apple	0.00074
39	Star fruit	0.00074

Working Area/calculation space

7.4 Main use of Secondary Products

7.5 Did you use **Secondary Products** from any of your crops during the 2002/03 year. (Yes=1, No=2)

If the response is 'NO' go to section 8.0

7.6 List the **main crops** with **secondary products** and provide the following details:

S/N	Crop name	Crop Code	Secondary product	Prod code	Used for	Unit	Total no of Units	No of units sold	Total value of sold units (Tsh.)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7.6.1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Main product (Col 4)

Green leaves & Stem...1 Flower ...4
 Straw, dry stems etc ...2 Fruit5
 Root, tuber, etc3 Other8

Mainly used for (Col 5)

Feeding to livestock ..1 Consumed by hh4
 Building material2 Sold5
 Fuel for cooking3 Did not use.....6

Unit (Col 6)

Loose Bundle/bunch1 kg5
 Compressed bunch/Bail...2 Stems6
 Tin3 Sack7
 Bucket4 Other8

8.0 AGROPROCESSING AND BY-PRODUCTS

8.1 Did the household **process** any of the products harvested on the farm during 2002/03 (Yes=1, No=2)

If the response is 'NO' go to section 9.0

8.2 List the **main crops** processed and provide the following details:

S/N	Crop name	Crop Code	Proc-ess-ed	Main Prod-uct code	Used for	Unit	Quantity of main product	Quantity Sold	Where sold	By-Prod-uct code	Used for	Unit	Quantity of by-product	Quantity Sold
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
8.2.1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Processed (Col 3)

On farm by hand.....1
 On farm by machine.....2
 By neighbours machine...3
 By farmers association ...4
 By Cooperative union5
 By trader6
 On Large scale farm7
 By factory9
 Other8

Main product code (Col 4)

Flour/meal.....1
 Grain2
 Oil3
 Juice4
 Fiber.....5
 Pulp6
 Sheet7
 Other8

Used for (Col 5 & 11)

Household/human consumption ..1
 Fuel for cooking2
 Sale3
 Animal consumption.....4
 Did not use5
 Other8

Where sold (Col 9)

Neighbour.....1
 Local market/trade store2
 Secondary Market3
 Marketing Coop4
 Farmer Association5
 Largescale farm6
 Trader at farm7
 Did not sell9
 Other8

By-product code (Col 10)

Bran01
 Cake02
 Husk03
 Juice04
 Fiber05
 Pulp06
 Oil07
 Shell08
 Other98

Unit (Col 6 & 12)

Loose bundle/bunch1
 Compressed bunch/bail...2
 Tin3
 Bucket4
 kg5
 litre6
 Other8

9.0 CROP STORAGE							
9.1	Did the household store any crops during the 2002/03 agriculture year? (Yes =1, No=2)						<input type="checkbox"/>
<i>If the response is 'NO' go to section 10.0</i>							
9.2 For each of the listed crops provide the following details on storage							
S/N	Crop Name	Stor -ed Y=1 No=2	Current Quantity Stored (kg)	Method of Storage	Normal duration of storage	Main pur -pose	Estimate Storage loss
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>	<i>(7)</i>
9.2.1	Maize	<input type="checkbox"/>	<input style="width: 50px; height: 20px;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.2	Paddy	<input type="checkbox"/>	<input style="width: 50px; height: 20px;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.3	Sorghum/Millet	<input type="checkbox"/>	<input style="width: 50px; height: 20px;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.4	Beans, peas, etc	<input type="checkbox"/>	<input style="width: 50px; height: 20px;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.5	Wheat	<input type="checkbox"/>	<input style="width: 50px; height: 20px;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.6	Coffee	<input type="checkbox"/>	<input style="width: 50px; height: 20px;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.7	Cashewnut	<input type="checkbox"/>	<input style="width: 50px; height: 20px;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.8	Tobacco	<input type="checkbox"/>	<input style="width: 50px; height: 20px;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.9	Cotton	<input type="checkbox"/>	<input style="width: 50px; height: 20px;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.10	Groundnuts/bambara	<input type="checkbox"/>	<input style="width: 50px; height: 20px;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Main method of Storage (Col 4)

In locally made traditional structure..1
 In Improved locally made structure .2
 In modern store3
 In Sacks/open drum.....4
 In airtight drum5
 Unprotected pile6
 Other8

Duration of Storage (Col 5)

Less than 3 months1
 Between 3 and 6 months2
 Over 6 months3

Main purpose of storage (Col 6)

Food for the household1
 To sell for higher price2
 seed for planting.....3
 Other8

Storage loss (Col 67)

Little or no loss1
 Up to 1/4 loss2
 Between 1/4and 1/2 loss ..3
 Over 1/2 loss4

10.0 MARKETING																									
10.1	Did the household sell any crops from the 2002/03 agriculture year? (Yes=1, No=2)						<input type="checkbox"/>																		
<i>(If the response is 'YES' or 'NO' go to section 10.2)</i>																									
10.2 For each of the following crops what was the main marketing problem faced by the household during 02/03																									
	Crop	Main problem		Crop	Main problem	10.3 From the list of marketing problems below, for all produce rank the five most important problems																			
	<i>(1)</i>	<i>(2)</i>		<i>(1)</i>	<i>(2)</i>																				
10.2.1	Maize	<input type="checkbox"/>	→	10.2.9	Vegetables	<input type="checkbox"/>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="width: 50px; text-align: center;">1</td> <td style="width: 50px; text-align: center;">2</td> </tr> <tr> <td>10.3.1</td> <td>Biggest problem</td> <td><input type="checkbox"/></td> </tr> <tr> <td>10.3.2</td> <td>2nd problem</td> <td><input type="checkbox"/></td> </tr> <tr> <td>10.3.3</td> <td>3rd problem</td> <td><input type="checkbox"/></td> </tr> <tr> <td>10.3.4</td> <td>4th problem</td> <td><input type="checkbox"/></td> </tr> <tr> <td>10.3.5</td> <td>5th problem</td> <td><input type="checkbox"/></td> </tr> </table>		1	2	10.3.1	Biggest problem	<input type="checkbox"/>	10.3.2	2nd problem	<input type="checkbox"/>	10.3.3	3rd problem	<input type="checkbox"/>	10.3.4	4th problem	<input type="checkbox"/>	10.3.5	5th problem	<input type="checkbox"/>
	1	2																							
10.3.1	Biggest problem	<input type="checkbox"/>																							
10.3.2	2nd problem	<input type="checkbox"/>																							
10.3.3	3rd problem	<input type="checkbox"/>																							
10.3.4	4th problem	<input type="checkbox"/>																							
10.3.5	5th problem	<input type="checkbox"/>																							
10.2.2	Rice	<input type="checkbox"/>		10.2.10	Tree Fruits	<input type="checkbox"/>																			
10.2.3	Sorghum/millet	<input type="checkbox"/>	10.2.11	Cashewnut	<input type="checkbox"/>																				
10.2.4	Wheat	<input type="checkbox"/>	10.2.12	Cotton	<input type="checkbox"/>																				
10.2.5	Beans, peas etc	<input type="checkbox"/>	10.2.13	Tobacco	<input type="checkbox"/>																				
10.2.6	Cassava	<input type="checkbox"/>	10.2.14	Groundnuts/bamabara	<input type="checkbox"/>																				
10.2.7	Bananas	<input type="checkbox"/>	10.2.15	Trees/timber/poles	<input type="checkbox"/>																				
10.2.8	Coffee	<input type="checkbox"/>	10.2.16	Fish	<input type="checkbox"/>																				

Market problems (Q10.2 & 10.3 (Col 2))

Open market price too low01 Market too far05 Government Regulatory board problems...09
 No transport02 Farmer association problems06 Lack of market Information10
 Transport cost too high03 Cooperative Problems07 Other (specify)98
 No buyer04 Trade Union problems08 Not Applicable99

| 10.4 | What was the main **reason for not selling** crops during 2002/03 year | | | | | | |

Reason for not selling crops (Q10.4)

Price too low1 Farmer association problems4 Government regulatory board problems7
 Production insufficient to sell.....2 Cooperative Problems.....5 Other (specify)8
 Market too far3 Trade Union problems6 Not Applicable9

Definition and working page for page 8**Question Specific definitions (Section 9.0)****Crop Storage, Section 9****Method of Storage (column 4)**

- **Locally made structure:** The structures that have been inherited from their fore fathers
- **Improved locally made structure:** Traditional structures that have been improved using modern technology.
- **Normal duration of storage:** Often there are stored stocks from different seasons and different years. The normal duration refers to the number of months that the most of the crop is stored for.

Marketing problems Q 10.2 and 10.3 col 2:

- **Farmer Association:** A village or community based group of farmers who have formed an organisation to purchase inputs/sell/store their products in order to achieve a better price for their products.
- **Cooperative Union:** Large inter-village /community organisation set up on a district/regional or national basis for providing inputs, marketing and storing farmers products.
- **Government Regulatory board:** Government control body for setting prices and controlling quality of certain agriculture commodities.

Procedures for Questions**Q 9.2 Details of Crop Storage:**

1. For the crops listed indicate if the household stored any during 2002/03 in column 2.
2. Check that the crops correspond to the crop lists in Q 7.1.2, 7.2.2 & 7.3.2. If there is a difference inquire on the reason why. It is possible that a crop was missed during the enumeration of these questions and if so make necessary amendments
3. For the listed crops give details of storage.

Q 10.2 Details on Crop Marketing:

1. For each of the crops listed indicate the main problems in marketing during 2002/03 in column 2.
2. Check if the crops correspond to the crop lists list in Q 7.1.2, 7.2.2 & 7.3.2. If there is a difference inquire on the reason why. It is possible that a crop was missed during the enumeration of these questions and if so make necessary amendments

Q 10.3 Ranking of market problems:

Rank in order of importance the 5 most important marketing problems from the codes in the Market Problems code box.

Working Area/calculation space

11.0 ON-FARM INVESTMENT					
11.1	Does the household practice irrigation (Yes=1, No=2) <input style="float:right;" type="checkbox"/>				
<i>If the response is 'NO' go to section 11.3</i>					
S/N	Source of Irrigation water	Method of obtaining water	Method of applic -ation	Irrigatable area (acres)	Area of irrig ated land this year (acres)
	(1)	(2)	(3)	(4)	(5)
11.1.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> · <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> · <input type="text"/> <input type="text"/>
Source of irrigation water (Col 1) River1 Borehole5 Lake2 Canal6 Dam3 Tap Water7 Well4			Method of obtaining water (Col 2) Gravity1 motor pump4 Hand bucket2 Other8 Hand pump3		Method of application (Col 3) Flood1 Sprinkler2 water hose.....3 Bucket/watering can4

11.2	Does the household have any erosion control/water harvesting facilities on their land (Yes=1, No=2) <input style="float:right;" type="checkbox"/>					
<i>If the response is 'NO' go to section 12.0</i>						
S/N	Type of erosion control/ water harvesting structure	Number of structures	Year of con-struction	Type of erosion control/ water harvesting structure	Number of structures	Year of con-struction
	(1)	(2)	(3)	(1)	(2)	(3)
11.2.1	Terraces	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	11.2.5	Tree belts	<input type="text"/> <input type="text"/>
11.2.2	Erosion control bunds	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	11.2.6	Water harvesting bunds	<input type="text"/> <input type="text"/>
11.2.3	Gabions/Sandbags	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	11.2.7	Drainage ditches	<input type="text"/> <input type="text"/>
11.2.4	Vetiver Grass	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	11.2.8	Dam	<input type="text"/> <input type="text"/>

12.0 ACCESS TO FARM INPUTS AND IMPLEMENTS								
12.1 Give details of farm inputs used during the 2002/03 agriculture year								
S/N	Input name	Used Yes=1 No=2	Source	Distance to Source	Source of Fin -ance	Reason for not using	Quality of Input	Plan to use next year Yes =1,No=2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
12.1.1	Chemical Fertiliser	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.1.2	Farm Yard Manure	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.1.3	Compost	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.1.4	Pesticide/fungicide	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.1.5	Herbicide	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.1.6	Improved Seeds	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.1.7	Other	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Source (Col 3) Cooperative01 Local farmers group02 Local market/Trade Store ...03 Secondary Market04 Development project05 Crop buyers06 Large scale farm07 Locally produced by hh08 Neighbour09 Other (specify)98 Not applicable99		Distance to source (Col 4) Less than 1 Km1 Between 1 and 3km2 between 3 and 10 km... ..3 Between 10 and 20 km ...4 20km and above5 not applicable9		Source of finance (Col 5) Sale of farm products .1 Other income generating activities ...2 Remittances3 Bank Loan/Credit4 produced on farm5 Other8 Not applicable9		Reason for not using (Col 6) Not available1 Price too high2 No money to buy3 Too much labour required..4 Do not know how to use....5 Input is of no use6 Locally produced by hh7 Other8 Not applicable9		Quality of input (Col 7) Excellent1 Good2 Average3 Poor4 Does not work .5 not applicable...9

Definition and working page for page 9

Overview of Investment activities (Section 11.0)

Investment activities:

Investment activities refer to medium to long term farm development structures and projects. This can be Irrigation structures, erosion and water harvesting structures or other permanent or semi-permanent investment made on the land that the household owns.

Question Specific Definitions (Q 11.1)

Source of irrigation Water (Col 1): The main source of water from which water is obtained for irrigation.

Method of obtaining water (Col 2): The mechanism by which the water is extracted from the source,

Application Method (Col 3): How the water is applied on the field.

- Flood - is the application of water down the slope of the land by means of gravity
- Sprinkler - is the application of pressurised water through pipes. The water passes through a device which sprays the water onto the crop from above.

Irrigatable Area (Col 4): The area the irrigation system is designed to cover in acres.

Area of irrigated land this year (Col 5): Area of land under irrigation during the 2002/03 agric year. This is the physical area and NOT the cumulative area of 2 or more croppings.

Q 11.1 Irrigation

1. If the hh practices irrigation give details on the main source, main method of obtaining and applying water.
2. Cross check column 8, Q 7.1.2, 7.2.2 & 7.3.2 to check if irrigation was used on any crops.

Question Specific Definitions (Q 11.3)

Erosion control/water harvesting structure (Col 1)

Terraces: Are structures constructed on the side of a hill to provide a level ground to plant crops. They are often used to trap water for paddy/lowland rice production.

Erosion Control Bunds: These are banks of earth/stones built perpendicular to the slope to slow down water and prevent erosion. They are different to Terraces in that the soil behind the banks are not level.

Gabions: A gabion is a wire mesh box filled with rocks/stones and used to control or prevent gully erosion

Sandbags Used to prevent or control gully erosion

Tree belts/Wind breaks: A band of trees planted perpendicular to the prevailing wind whose main purpose is to slow down wind speed

Water Harvesting bunds: A bank of earth constructed horizontal to the slope of the land to trap water. They are usually banana shaped.

Dam: A bank of earth/material which traps river water to form a catchment of water behind it.

Q 11.3 erosion control/water harvesting

1. Number of structures refers to the number of working/maintained structures and does not include derelict or irreparable structures.
2. Year of construction refers to the year that the structures were first constructed. It is not the year that the structures were last maintained.

Farm Inputs (Q 12.1.1 to 12.1.7)

Farm yard Manure: An organic fertiliser made on farm composed of animal dung.

Compost: An organic fertiliser made on farm from decomposed plant material

Pesticide: Chemical used to either protect the plant from or kill insects, birds, molluscs, mites, etc attacking the plant

Fungicide: is a chemical that is used to protect the plant from or control a fungal disease.

Herbicide: A chemical used to control weeds.

Q 12.0 Farm Inputs

1. Indicate in column 1 whether each of the inputs are used or not.
2. Complete cols 3, 4, 6, and 7 for inputs that are used and place '9' in column 5 (for not applicable).
3. Complete cols 5 & 7 for inputs not used.

NOTE: Cross check column 6, 7, 8 & 9, Q 7.1.2, 7.2.2 & 7.3.2 to check what inputs were used.

12.2 Give details of farm implements and assets used and owned by the household during 2002/03 agriculture year								
S/N	Equipment/Asset Name	Number		Used in 2002/03 Yes 1, No=2	Source of Equip-ment	Source of Fin-ance	Reason for not using	Plan to use next year Yes=1, No=2
		Owned	rent-ed					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
12.2.1	Hand Hoe	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.2	Hand Powered Sprayer	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.3	Oxen	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.4	Ox Plough	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.5	Ox Seed Planter	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.6	Ox Cart	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.7	Tractor	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.8	Tractor Plough	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.9	Tractor Harrow	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.10	Shellers/threshers	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Source of equipment (Col 5)</u> Neighbour.....1 Development project5 Cooperative2 Government6 Local farmers association.....3 Large scale farm7 market/Trade store4 Other (specify)8		<u>Source of finance (Col 6)</u> Sale of farm products1 Other income generating activities .2 Remittances3 Bank Loan4 Credit5 Other8 Not applicable9		<u>Reason for not using (Col 7)</u> Not available1 Price too high2 No money to buy/rent.....3 Too much labour required....4 Equipment/Asset of no use ...5 Other8 Not applicable9				
13.0 USE OF CREDIT FOR AGRICULTURE PURPOSES								
13.1	During the year 2002/03 did any of the hh members borrow money for agriculture (Yes = 1, No = 2) (if the response is 'NO' go to section 13.3)							<input type="checkbox"/>
13.2 Give details of the credit obtained during the agricultural year 2002/03 (if the credit was provided in kind, for example by the provision of inputs, then estimate the value in 13.2.9)								
		Source "a"		Source "b"		Source "c"		
use codes to indicate source		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
Provided to Male = 1, Female 2		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
		tick the boxes below to indicate the use of the credit		tick the boxes below to indicate the use of the credit		tick the boxes below to indicate the use of credit		
13.2.1	Labour	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
13.2.2	Seeds	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
13.2.3	Fertilisers	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
13.2.4	Agrochemicals	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
13.2.5	Tools/equipment	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
13.2.6	Irrigation structures	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
13.2.7	Livestock	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
13.2.8	Other	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
13.2.9	Value of Credit (Tsh.)	<input type="text"/>		<input type="text"/>		<input type="text"/>		
13.2.10	Value of repayment (Tsh.)	<input type="text"/>		<input type="text"/>		<input type="text"/>		
13.2.11	Period of repayment (months)	<input type="text"/>		<input type="text"/>		<input type="text"/>		
<u>Source of credit (Q 13.2-a, b and c)</u> Family, friend or relative....1 Commercial Bank.....2 Cooperative3 Savings & credit Soc4 Trader/trade store5 Private individual6 Religious Organisation/NGO/Project ...7 Other (Specify).....8								
13.3	If the answer to question 13.1 above is 'NO' what is the reason for not using Credit?							<input type="checkbox"/>
<u>Reason for not using credit (Q13.3)</u> Not needed ...1 Not available ...2 Did not want to go into debt....3 Interest rate/cost too high.....4 Did not know how to get credit....5 Difficult bureaucratic procedure ...6 Credit granted too late ...7 Other (specify) ...8 Dont know about credit9								

Definition and working page for page 10

Question Specific Definitions (Q 12.2)

Farm Implements (Col 1):

Hand powered Sprayer: Knapsack or bicycle pump sprayer

Reason for not using (Col 6): Be careful about using "too much labour required" as this code generally refers to hand hoes only. The codes for this should "**NOT**" be read out to the farmer as a prompt.

Note: If remittance is given as the main source of finance check for a response to remittances in **question 2.2.5**

Question Specific Definitions (Q 13.0)

Section 13.0 Credit for Agriculture Purposes

Credit is defined as finance in the form of cash or in-kind contributions (eg direct provision of inputs, machinery, livestock or other material) for the purpose of crop and livestock production whereby the value of the credit must be paid back to the borrower. The value of repayment may either be with interest or interest free.

Credit may be paid back in the form of cash or agriculture produce.

Section 13.0 Credit for Agriculture Purposes

Value of credit: is the amount in cash received from the borrower. If the credit was paid in-kind, estimate the value of this.

Value of repayment: This is the amount to be repaid to the borrower and includes the principal amount (value of credit) plus any interest repayment. If the credit is paid back in agriculture produce, then the cash value of this must be estimated.

Period of repayment: This is the time in **months** the borrower has given for full repayment.

Procedures for questions

Q 12.0 Farm Inputs

1. Indicate in column 2 and 3 whether each of the implements were used or not.
2. Complete cols 4, 5, 6, and 8 for inputs that are used and place '9' in column 7 (for not applicable).
3. Complete cols 7 & 8 for inputs not used.

Section 13.2 Source of agriculture credit

If the farmer obtained credit from more than one source then use the columns "a", "b" and "c" for the different sources of credit. Start with the main source of credit in column "a".

NOTE: Check for use of inputs in column 7, 8 & 9 of questions 7.1.2, 7.2.2 & 7.3.2.

Working Area/calculation space

14.0 TREE FARMING/AGROFORESTRY										
14.1	Did your household have any Planted Trees on your land during 2002/03 agric year? (Yes =1, No=2) <input type="checkbox"/>									
<i>If the response is 'NO' go to section 14.3</i>										
14.2 Give details of the planted trees you have on your land.										
S/N	Tree Code	Number of trees	Where planted	Main Use	Secondary Use	Number of Plank trees Sold	Number of Pole trees Sold	hh utilised		Total Value (Tsh.)
								Number of Poles	Number of Timber	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
14.2.1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
14.2.2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
14.2.3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
14.2.4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Where Planted (Col 3) Mostly on field/plot boundaries...1 Mostly scattered in fields2 Mostly in plantation/coppice ...3						Use (Col 4 & 5) Planks/Timber.....1 Shade5 Poles2 Medicinal.....6 Charcoal3 Other8 Fuel wood4				
14.3	Does your village have a Community tree planting scheme (Yes=1, No=2) <input type="checkbox"/>									
<i>If the response is 'NO' go to section 15.0</i>										
14.4 Household involvement in community tree planting scheme										
S/N	Distance to community planted forest (Km)	hh Involve-ment	Main purpose	Main use during 2002/03						
	(1)	(2)	(3)	(4)						
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>						
HH involvement (Col 2) Only planting1 Only protection and thinning.....2 Only cutting3 Most or all activities.....4		Main Purpose (Col 3) Erosion control.....1 Environment rehabilitation ...4 Production of poles2 Restoration of wildlife5 production of firewood...3 Other (specify)8				Main Use during 02/03(Col 4) Poles1 Not ready to use5 Timber logs2 Not allowed to use ...6 Charcoal3 Other (specify)8 Firewood4				

15.0 CROP EXTENSION SERVICES							
15.1	Did your household receive extension advice for crop production during 2002/03 (Yes=1,No=2) <input type="checkbox"/>						
<i>If the response is 'NO' go to section 16.0</i>							
S/N	Extension Provider	Source of extension (Y=1,N=2)	If you pay for extension, what is the cost/yr	Contact farmer /group member (Yes=1,No=2)	No. of visits by extension agency per year	No. of message adopted in the last 3 years	Quality of Service
15.1.1	Government extension	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
15.1.2	NGO/development project	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
15.1.3	Cooperative	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
15.1.4	Large Scale farmer	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
15.1.5	Other.....	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Quality of service (Col 7) Very good1 good2 Average.....3 Poor.....4 No Good5							

Definition and working page for page 11	
<p>General Definitions for section 14.0</p> <p>Tree Farming/Agroforestry</p> <p>This section refers to trees planted for wood (firewood, poles, planks, carving, charcoal, medicinal, etc, but NOT fruit trees). It does not include naturally growing trees on the farm (unless special care has been given to promote their establishment) or trees growing naturally on the communal areas.</p> <p>Tree farming is the planting of trees on an area of land for which the main purpose is the production and regeneration of trees for wood on that land.</p> <p>Agroforestry: is the planting of trees on land for the purpose of complementing other farming activities like crop and animal production. For the purpose of this questionnaire Agroforestry trees are trees planted on boundaries and scattered throughout fields. The main productive unit in this case is Crops and Livestock.</p>	<p>Section 14.2 Details of planted trees</p> <ol style="list-style-type: none"> 1. Enter the tree codes of the main species grown by the hh 2. If no planks or poles are sold enter a "0" in columns 8, & 9. 3. Total value includes both value of hh utilised trees and sold trees. 4. If no trees were utilised by the hh or sold enter "0" in column 10
<p>Question Specific Definitions</p> <p>Tree farming (Section 14.0)</p> <p>Pole trees (Col 6): These are young trees which have a maximum diameter of 6 inches at the bottom and are often used for house construction. They are often the thinning harvest after 3 - 5 years.</p> <p>Plank trees (Col 7): Trees for sawing into timber planks.</p> <p>Animal shade: Trees grown for the purpose of providing shade to animals.</p> <p>Community tree planting scheme (Section 14.3)</p> <p>Community Forest: A forest planted on the communal land which is planted, replanted or spot planted by the members of the village.</p> <p>Crop Extension Services (Section 15.1)</p> <p>Contact Farmer: A farmer who is used by the extension agent as a focal point to demonstrate new interventions. The contact farmer then passes on the message to other farmers</p> <p>Group member: Member of a group under which the contact farmer leads</p> <p>Adoption: This is the uptake of an intervention for 2 or more years</p>	<p>Section 15.1 Crop Extension Services</p> <ol style="list-style-type: none"> 1. For each of the extension providers ask if the hh received extension during 2002/2003 agriculture year and indicate in column 2. 2. For each of the providers complete the rest of the columns

Tree Name Guide Col 1

Code	Local Name	Botanical Name	English Name	Code	Local Name	Botanical Name	English Name
01		<i>Senna siamea</i>	Cassod tree	16			
02	Msongoma	<i>Gravellia</i>	Silver oak	17			
03	Mbarika	<i>Azelia quanzensis</i>	Pod mahogany	18			
04	Mkeshia	<i>Acacia spp</i>	Umbrella thorn	19			
05	Msindano	<i>Pinus spp</i>	Pine	20			
06	Mkaratusi	<i>Eucalyptus spp</i>	Red River Gum	21			
07		<i>Cyprus spp</i>	Cyprus tree	22			
08	Mtndoo	<i>Calophyllum inophyllum</i>		23			
09	Mvule	<i>Melicia excelsa</i>	Iroko	24			
10	Mvinji	<i>Casurina equisetifolia</i>	Whistling oak	25			
11	Msaji	<i>Tectona grandis</i>	Teak	26			
12	Mkungu wa kienyeji	<i>Terminalia catapa</i>	Sea almond	27			
13	Mkungu india	<i>Terminilia ivorensis</i>	Black afara	28			
14	Muhumula	<i>Maesopsis berchemoides</i>		29			
15				30			

15.2 Crop Extension Messages										
S/N	Extension Message	Received Advice	Adopted	Source of	S/N	Extension Message	Received Advice	Adopted	Source of	
		Yes=1 No=2	Yes=1 No=2	Crop Extension			Yes=1 No=2	Yes=1 No=2	Crop Extension	
		(1)	(2)	(3)			(1)	(2)	(3)	(4)
15.2.1	Spacing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.9	Crop Storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15.2.2	Use of agrochemicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.10	Vermin control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15.2.3	Erosion control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.11	Agro-processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15.2.4	Organic fertiliser use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.12	Agro-forestry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15.2.5	Inorganic fertiliser use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.13	Bee Keeping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15.2.6	Use of improved seed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.14	Fish Farming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15.2.7	Mechanisation/LST	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.15	Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15.2.8	Irrigation Technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<p>Source of extension (Col 4) Government1 NGO/Dev project ..2 Cooperative ...3 Large scale farmer4 Other (Specify) ...8 Not applicable9</p>										

16.0 LIVELIHOOD CONSTRAINTS									
From the list of constraints on the right select:						List of constraints 1. Access to Land 2. Ownership of Land 3. Poor farm Inputs 4. Soil Fertility 5. Access to improved seed 6. Irrigation facilities 7. Access to chemical Inputs 8. Cost of Inputs 9. Extension Services 10. Access to forest resources 11. Hunting and Gathering 12. Access to potable water 13. Access to credit 14. Harvesting 15. Threshing 16. Storage 17. Processing 18. Market Information 19. Transport costs 20. Distraction by animals 21. Stealing 22. Pests and Diseases 23. Local government taxation 24. Access to off Farm Income			
16.1	the 5 most important problems		16.2	the 5 least important problems					
	Order of most importance	Constraint		Order of least importance	Constraint				
	(1)	(2)		(1)	(2)				
16.1.1	most important	<input type="checkbox"/>	16.2.1	Least important	<input type="checkbox"/>				
16.1.2	2nd most important	<input type="checkbox"/>	16.2.2	2nd least important	<input type="checkbox"/>				
16.1.3	3rd most important	<input type="checkbox"/>	16.2.3	3rd least important	<input type="checkbox"/>				
16.1.4	4th most important	<input type="checkbox"/>	16.2.4	4th least important	<input type="checkbox"/>				
16.1.5	5th most important	<input type="checkbox"/>	16.2.5	5th least important	<input type="checkbox"/>				
17.0 ANIMAL CONTRIBUTION TO CROP PRODUCTION									
17.1	Did you use Draft animals to cultivate your land during 02/03 (Yes=1, No=2) <input type="checkbox"/>				17.2	Did you apply organic fertiliser during 02/03 (Yes=1, No=2) <input type="checkbox"/>			
(If no, go to question 17.2)					(If no, go to question 18)				
S/N	Type of Draft	Number owned	Number used	Area cultivated (acres)	S/N	Type of organ Fertiliser	Area applied (acres)		
	(1)	(2)	(3)	(4)		(1)	(2)		
17.1.1	Oxen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17.2.1	FYM	<input type="checkbox"/>	<input type="checkbox"/>	
17.1.2	Bulls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17.2.2	Compost	<input type="checkbox"/>	<input type="checkbox"/>	
17.1.3	Cows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
17.1.4	Donkeys	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

Definitions and working page for page 12

Question Specific Definitions

Crop Extension Advice (Section 15.2)

Mechanisation/LST: LST means Labour Saving Technology

Section 16.0 Livelihood constraints

16.1 List the five most important problems in order of most importance:

1. Read out the list of constraints to the respondent and ask him to select the ones that are a problem. Place a ✓ against the constraints that are a problem.
2. Read the selected constraints and ask the farmer to select 5 which create the largest problems
3. Ask the farmer to list these in order of importance and enter in column 2

16.2 List the five least important problems in order of least importance:

1. Read out the list of constraints to the respondent and ask him to select the ones that are **NOT** a problem. Place an ✗ against the constraints that are **NOT** a problem.
2. Read the selected constraints and ask the farmer to select 5 which create the least problems
3. Ask the farmer to list these in order of least importance and enter in column 2

Definitions and working page for page 13**General definitions for page 13**

Cattle Intake during 2002/03: Cattle purchased, given or born which increases the number of cattle in the herd.

Cattle Offtake during 2002/03:

Cattle removed from the herd, either by selling, hh consumption, given away or stolen.

Question Specific Definitions (Section 18.0)**Cattle type (Q 18.2 & 18.4, Col 1)**

Bull: Mature **Uncastrated** male cattle used for breeding

Cow: Mature female cattle that has given birth at least once

Steer: Castrated male cattle over 1 year

Heifer: Female cattle of 1 year up to the first calving

Calves: Young cattle under 1 year of age

Average Value per Head (Q 18.3, (Col 7 & 9) & 18.4 (Col 3, 5 & 7))

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

Cattle vaccination (18.5 col 1)

ECF: East Coast Fever

FMD: Foot and Mouth Disease

CBPP: Contagious Bovine Pleura Pneumonia

Section 18.0 Cattle Population, Intake & Offtake.

NOTE: Section 18.1 is for the current population (as of 1st October 2003);
Section 18.2 and 18.3 is for movement in and out of the herd
during the 2002/03 agriculture year.
Section 18.4 is for diseases encountered during the agriculture year.

1. If the household has cows, you would normally expect them to have calves in column 8

2. If calves are reported in column 2, 3, or 4 (18.2.6, 18.2.5) then there must be at least that number repeated in column 8

Note: If the farmer reports sales of cattle the importance of this must be reflected in Q 2.2.3

Section 18.5 If cattle are reported to have died in Column 5 then at least that number should be reported in 18.4 col 4

Working area for page 13

Definitions and working page for page 14**Goat definitions for page 14**

Goat Intake during 2002/03: Goat purchased, given or born which increases the number of goats in the herd.

Goat Offtake during 2002/03:

Goat removed from the herd, either by selling, hh consumption, given away or stolen.

Question Specific Definitions (Section 19.0)**Goat type (Q 19.2 & 19.4, Col 1)**

Billy Goat (he-goat): Mature **Uncastrated** male goat used for breeding

Castrated goat: Male goat that has been castrated.

She Goat: Mature female goat over 9 months of age

Kid: Young goat under 9 months of age.

Average Value per Head (Q 19.3, (Col 7 & 9) & 19.4 (Col 3, 5 & 7))

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

Goat vaccination (19.5 col 1)

FMD: Foot and Mouth Disease

CCPP: Contagious Caprine Pleura Pneumonia

LSD: Lumpy Skin Disease

Section 19.0 Goat Population, Intake & Offtake.

NOTE: Section 19.1 is for the current population (as of 1st October 2003); Section 19.2 and 18.3 is for movement in and out of the herd during the 2002/03 agriculture year. Section 19.4 is for diseases encountered during the agriculture year.

1. If the household has she goats, you would normally expect them to have kids in column 8
2. If kids are reported in column 2, 3, or 4 (19.2.6, 19.2.5) then there must be at least that number repeated in column 8

Note: If the farmer reports sales of goats the importance of this must be reflected in Q 2.2.3

Section 19.5 If goats are reported to have died in Column 5 then at least that number should be reported in 19.4 col 4

Working area for page 14

20.0 SHEEP POPULATION, INTAKE AND OFFTAKE															
20.1 Did the household own, raise or manage any SHEEP during the 2002/03 agriculture year? (Yes =1 No =2)										<input type="checkbox"/>					
(If no go to section 21.0)															
20.2 Sheep Population as of 1st October 2003					20.3 Sheep Intake during 2002/2003										
S/N	Sheep type	Number of Indigenous	Number of Improved		Total	S/N	Number Purchased	Number given /obtained	Number Born	Total Intake of Sheep	Average Value per head				
	(1)	(2)	for Mutton (3)	Dairy (4)		(5)	(6)	(7)	(8)	(9)	(10)				
20.2.1	Ram			X X X		20.3.1			X X X						
20.2.2	Castrated Sheep			X X X		20.3.2			X X X						
20.2.3	She Sheep			X X X		20.3.3			X X X						
20.2.4	Male lamb			X X X		20.3.4									
20.2.5	She lamb			X X X		20.3.5									
Grand Total															
20.4 Sheep Offtake during 2002/2003							20.5 Sheep diseases								
S/N	Sheep type	Number Sold/traded	Number consumed by hh	Number given away/stolen	Number died	Total Sheep Offtake	Average value per head	S/N	Disease/parasite	Number Infected	Number Treated	No. Rec- overed	Number Died	Last vacci- nated	Main Sou- rce
	(1)	(2)	(3)	(4)	(5)	(6)	(7)		(1)	(2)	(3)	(4)	(5)	(6)	(7)
20.4.1	Ram														
20.4.2	Castrated Sheep							20.5.1	Foot Rot					X	X
20.4.3	She Sheep							20.5.2	CC PP						
20.4.4	Male lamb							20.5.3	Helminthiosis					X	X
20.4.5	She lamb							20.5.4	Trypa nsomiasis						
Total Offtake								20.5.5	FMD						
											Last Vaccinated (Col 6) 20031 20004 20022 before 20005 20013 Not Vaccinated...6				
											Main Source of vaccine (Col 7) Private Vet Clinic ..1 Other8 District Vet Clinic ..2 Not applicable9 NGO/Project.....3				

Definitions and working page for page 15**Sheep definitions for page 15**

Sheep Intake during 2002/03: Sheep purchased, given or born which increases the number of Sheep in the herd.

Sheep Offtake during 2002/03:
Sheep removed from the herd, either by selling, hh consumption, given away or stolen.

Question Specific Definitions (Section 20.0)**Sheep type (Q 20.2 & 20.4, Col 1)**

Ram: Mature **Uncastrated** male goat used for breeding

Castrated sheep: Male sheep that has been castrated.

Ewe: Mature female sheep over 9 months of age

Lamb: Young sheep under 9 months of age.

Average Value per Head (Q 20.3, (Col 7 & 9) & 20.4 (Col 3, 5 & 7))

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

Sheep vaccination (20.5 col 1)

FMD: Foot and Mouth Disease

CCPP: Contagious Caprine Pleura Pneumonia

Section 20.0 Sheep Population, Intake & Offtake.

NOTE: Section 20.1 is for the current population (as of 1st October 2003);
Section 20.2 and 20.3 is for movement in and out of the herd during the 2002/03 agriculture year.
Section 20.4 is for diseases encountered during the agriculture year.

1. If the household has ewes, you would normally expect them to have kids in column 8
2. If lambs are reported in column 2, 3, or 4 (20.2.6, 20.2.5) then there must be at least that number repeated in column 8

Note: If the farmer reports sales of Sheep the importance of this must be reflected in Q 2.2.3

Section 20.5 If Sheep are reported to have died in Column 5 then at least that number should be reported in 20.4 col 4

Working area for page 15

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Definitions and working page for page 16**Pigs definitions for page 16**

Pig Intake during 2002/03: Pigs purchased, given or born which increases the number of Pigs in the production unit.

Pig Offtake during 2002/03:

Pigs removed from the production unit, either by selling, hh consumption, given away or stolen.

Question Specific Definitions (Section 21.0)**Pigs type (Q 21.2 & 21.4, Col 1)**

Boar: Mature **Uncastrated** male pig used for breeding

Castrated Pig: Male pig that has been castrated.

Sow: Mature female pig that has given birth to at least one litter of pigs.

Gilt: Female pig of 9 months up to the first farrowing.

Piglet: Young pig under 3 months of age.

Average Value per Head (Q 21.3, (Col 7 & 9) & 21.4 (Col 3, 5 & 7))

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

Pig vaccination (21.5 col 1)

ASF: African Swine Fever

Section 21.0 Pig Population, Intake & Offtake.

NOTE: Section 21.1 is for the current population (as of 1st October 2003); Section 21.2 and 21.3 is for movement in and out of the herd during the 2002/03 agriculture year. Section 21.4 is for diseases encountered during the agriculture year.

1. If the household has sows, you would normally expect them to have piglets in column 8
2. If piglets are reported in column 2, 3, or 4 (20.2.6, 20.2.5) then there must be at least that number repeated in column 8

Note: If the farmer reports sales of Pigs the importance of this must be reflected in Q 2.2.3

Section 20.5 If Pigs are reported to have died in Column 5 then at least that number should be reported in 20.4 col 4

Working area for page 16

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Definition and working page for page 17**Question Specific Definitions Section 26.0)****Procedures for questions****Section 23.0 - Other Livestock:**

1. The current number includes both adult and young animals. For example The number of chickens in col 1 would include adults and chicks.

Question Specific Definitions Section 27.0)**Access to functional Livestock Structures/accessories (Section 27.0):**

NOTE: The structures must be functional. If they are not working/derelect then they should not be included. The distance to the next nearest functional structure should be taken.

Spray Race: A fixed spray structure on an animal race for spraying acaricide

Cattle crush: Corridor structure for restraining cattle.

Abattoir: Large building designed for slaughtering a large amount of animals. It normally has complex structures to assist in the slaughter and storage and a high level of hygiene is maintained.

Slaughter Slab: Concrete slab designed for slaughtering a small amount of animals

Hides: obtained from Cattle

Skins: Obtained from sheep and goats

Hide/Skin Shed: Shed for curing/tanning animal skins and hides

Village holding Pen: Enclosure for containing large amount of livestock which is owned communally.

Drencher: Device for orally administering medicine to livestock. If no product was sold in 2002 enter "0" in columns 6, 7 & 9.

Section 26.0 - Outlets for livestock:

Using the codes enter the outlets for the sale of different livestock in order of importance. If there are, for example, only 2 outlets mark the rest with a "X".

Definitions and working page for page 18**General definitions for Section 28.0**

Fish farming: Refers to the rearing/production of fish. It is different to fishing in that the fish have to be reared and fed in fish farming. Fishing traps or captures naturally occurring fish in rivers, lakes and the sea and should not be included in this section.

Question Specific Definitions (Section 28.2)

Production unit number (Col 1): A production unit is a pond river/lake which is treated as a separate entity for the production of fish eg it may be by virtue of manageable size, maturity of fish, type of fish etc. Eg a farmer may have 3 fish ponds. (each one is a separate production unit).

Frequency of stocking (Col 5): What is the number of times the farmer puts new fingerlings into the pond each year.

Fingerlings: These are young immature fish used for stocking ponds.

Sold: (Col 10 & 11)

If no fish were sold enter "0" in column 10 and 11)

Livestock Extension Services (Section 29.1)

Adopted (Col 3): This is the uptake of an intervention for 2 or more years

Livestock Extension Service providers (Section 29.2)

Contact Farmer: A farmer who is used by the extension services as a focal point to demonstrate new interventions to. The contact farmer then passes on the message to other farmers

Adopted (Col 5): This is the uptake of an intervention for 2 or more years

Working area for page 18

Definition and working page for page 19**Question specific definitions (Section 31.1)****Activity (Col 1):**

Land Clearing: Refers to removing trees/bush/grass prior to ploughing

Soil Preparation: Refers to the seedbed preparation (ploughing, harrowing, etc).

Cattle Rearing: Tending to cattle at home, eg assisting with births, castration, etc. Different livestock keeping activity to herding.

Cattle Herding: Moving livestock from place to place for grazing and water. If herding is carried out the respondent must also give a response to rearing/husbandry

Question Specific Definitions (Section 32.0.0)**Activity (Col 1):**

Subsistence: For the family's survival, rather than for the generation of cash. This includes feeding the hh, provision of water and fuel for cooking. The source of these products are usually from the land resources available to the family. Remember that not all cash earnings are for non subsistence purposes/activities as cash can be used to purchase subsistence items eg food.

Non -subsistence: Cash used for items and activities which are not crucial for the survival of the family. This includes modern medication, non working clothes, refined beer, school fees, etc.

Procedures for (Section 31.1)**Section 31.1 ((Labour use)**

1. For each listed activity in column 1, place a tick in column 2 if any member of the household was involved in that activity during the 2002/03 agriculture year.
2. After completing column 2 return to the first activity in row 27.1.1 and complete column 3.
3. Make sure you stress MAINLY responsible.

NOTE: If an activity has been mentioned previously in the questionnaire eg that the hh keeps chickens, make sure a response is obtained in the appropriate place ie poultry keeping.

If off-farm income generation is mentioned, check for responses to off farm income in other parts of the questionnaire

Section 32.0 - Subsistence vs Non-subsistence

1. For each listed activity in column 1, place a tick in column 2 if any member of the household was involved in that activity during the 2002/03 agriculture year.
2. After completing column 2 return to the first activity in row 32.1.1 and complete column 3 & 4. For each activity make an assessment of the percentage used for subsistence survival and the percent converted to cash for non subsistence goods and items.
3. Make sure you stress MAINLY responsible.

NOTE: Cross check the responses with previous sections in the questionnaire. eg if a response is given to remittances check for an entry in question 2.2.5

34.0 HOUSEHOLD FACILITIES																			
34.1 House Construction		34.2 Household assets																	
For the main dwelling , what are the main building materials used in the construction of the following 34.1.1: Roof <input type="checkbox"/> 34.1.2 Number of rooms <input type="checkbox"/> <input type="checkbox"/>		Does your household own the following? Asset <input type="checkbox"/> Y=1 N=2																	
Roof Material Iron Sheets.....1 Tiles2 Concrete3 Asbestos4 Grass/leaves.....5 Grass & mud.....6 Other (Specify) 8		34.2. Radio/cassette, music system) <input type="checkbox"/> 34.2. Telephone (landline) <input type="checkbox"/> 34.2. Telephone (mobile) <input type="checkbox"/> 34.2. Iron <input type="checkbox"/> 34.2. Wheelbarrow <input type="checkbox"/> 34.2. Bicycle <input type="checkbox"/> 34.2. Vehicle <input type="checkbox"/> 34.2. Television <input type="checkbox"/>																	
34.3 Energy use by the Household		34.4 Access to drinking water																	
Energy use and access by the household Main Source of energy for 34.3.1 Lighting <input type="checkbox"/> <input type="checkbox"/> 34.3.2 Cooking <input type="checkbox"/> <input type="checkbox"/>		<table border="1"> <thead> <tr> <th>Season</th> <th>Main source of drinking water</th> <th>Distance to source (in km)</th> <th>Time to and from source (Hour : minute)</th> </tr> <tr> <th>(1)</th> <th>(2)</th> <th>(3)</th> <th>(4)</th> </tr> </thead> <tbody> <tr> <td>34.4. Wet Season</td> <td><input type="checkbox"/><input type="checkbox"/></td> <td><input type="checkbox"/><input type="checkbox"/> · <input type="checkbox"/></td> <td><input type="checkbox"/><input type="checkbox"/> : <input type="checkbox"/><input type="checkbox"/></td> </tr> <tr> <td>34.4. Dry Season</td> <td><input type="checkbox"/><input type="checkbox"/></td> <td><input type="checkbox"/><input type="checkbox"/> · <input type="checkbox"/></td> <td><input type="checkbox"/><input type="checkbox"/> : <input type="checkbox"/><input type="checkbox"/></td> </tr> </tbody> </table>		Season	Main source of drinking water	Distance to source (in km)	Time to and from source (Hour : minute)	(1)	(2)	(3)	(4)	34.4. Wet Season	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> · <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> : <input type="checkbox"/> <input type="checkbox"/>	34.4. Dry Season	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> · <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> : <input type="checkbox"/> <input type="checkbox"/>
Season	Main source of drinking water	Distance to source (in km)	Time to and from source (Hour : minute)																
(1)	(2)	(3)	(4)																
34.4. Wet Season	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> · <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> : <input type="checkbox"/> <input type="checkbox"/>																
34.4. Dry Season	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> · <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> : <input type="checkbox"/> <input type="checkbox"/>																
Lighting energy Mains electricity.....01 Solar02 Gas (biogas)03 Hurricane Lamp04 Pressure Lamp05 Wick Lamp06 Candles07 Firewood08 Other (specify) 98		Cooking energy Mains electricity.....01 Solar02 Gas (hh biogas)03 Bottled gas04 Paraffin/kerocine.....05 Charcoal.....06 Firewood07 Crop Residues08 Livestock dung09 Other (specify)98																	
Main Source of drinking water Piped water01 Protected well02 Protected/covered spring03 Unprotected Well04 Unprotected spring05 Surface water (lake/dam/river/stream)06		Covered rainwater catchment ...07 Uncovered rainwater catchment 08 Water Vendor09 Tanker truck10 Bottled water11 Other (Specify)98																	
34.5 Access to toilet facilities		34.6 Food consumption patterns																	
34.5.1 What type of toilet does your hh use <input type="checkbox"/>		34.6. Number of meals the hh normally has per day <input type="checkbox"/>																	
Type of toilet No toilet/bush.....1 Improved pit latrine - hh owned.....4 Flush toilet2 Other type (specify)5 Pit latrine - traditional ..3		34.6. Number of days hh consumed meat last w <input type="checkbox"/> k																	
34.6. How often did the hh have problems in satisfying the food needs of the hh last year? <input type="checkbox"/>		Problems satisfying hh food needs (row 34.6.3) Never1 Seldom2 Sometimes3 Often4 Always5																	
34.7 Source of Household income																			
34.7.1 What is the households main source of cash income ? <input type="checkbox"/> <input type="checkbox"/>																			
Source of Income codes Sale of food crops01 Wages or salaries in cash07 Sale of Livestock.....02 Other casual cash earnings ..08 Sale of livestock products ...03 Cash remittances09 Sale of cash crops.....04 Fishing10 Sale of forest products05 Other98 Business income.....06 Not applicable99																			

Definition and working page for page 20**Household facilities (Section 34):****Number of rooms used for sleeping in the household (Q 34.1)**

Include sitting room, dining room, kitchen, etc if used for sleeping. It also includes rooms outside the main dwelling

A room is defined as a space which is separate from the rest of the building by a permanent wall or division. A building/house that is not divided into rooms is considered to have one room.

Household assets (Q 34.2): these assets must be functioning. Do not include if broken.

Access to drinking water (Q 34.4): If there is more than one source, use the one, which the hh uses most frequently.

Main source of hh cash income:

Activity that provides the hh with the most cash during 2002/03 agriculture year.

